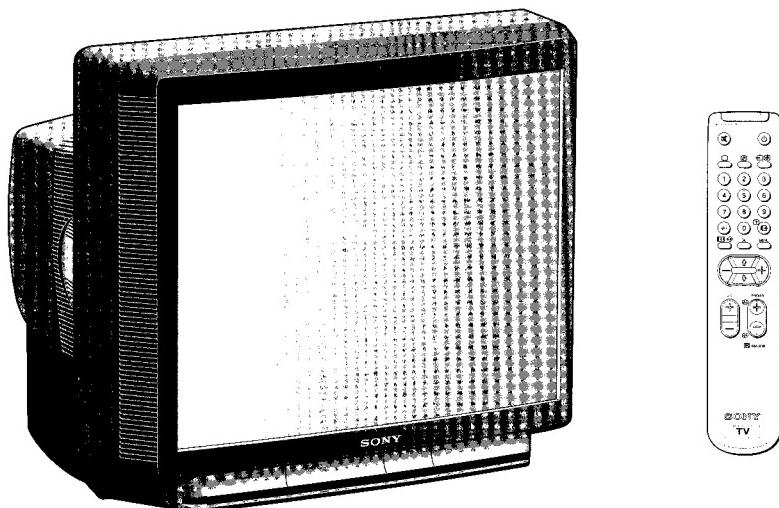


SERVICE MANUAL

BE-3D CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-29X1A	RM-839	Italian	SCC-K05H-A	KV-29X1K	RM-839	OIRT	SCC-K08Q-A
KV-29X1B	RM-839	French	SCC-K01H-A	KV-29X1L	RM-839	Irish	SCC-J21B-A
KV-29X1D	RM-839	AEP	SCC-K07H-A	KV-29X1R	RM-839	OIRT	SCC-K08R-A
KV-29X1E	RM-839	Spanish	SCC-K06H-A	KV-29X1U	RM-839	UK	SCC-K04F-A



TRINITRON® COLOR TV
SONY®

ITEM MODEL	Television System	Channel Coverage	Colour System
Italian	B/G/H	VHF: E2-E12, S1-S20, A-H, H1,H2 UHF: E21-E69	PAL NTSC3.58/4.43 (video input only)
French	B/G/H, D/K, L, I	L SECAM VHF: F2-F10 UHF: F21-F69 TV CABLE TV (1) VHF: B-Q UHF: S21-S44 PAL B/G/H VHF: E2-E12 UHF: E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF: A-H, H1, H2 PAL I UHF: B21-B69 D/K VHF: R01-R20 UHF: B21-B69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, S42-S46	PAL, SECAM NTSC3.58/4.43 (video input only)
AEP	B/G/H, D/K	B/G/H VHF: E2-E12 UHF: S1-S20 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF: A-H, H1, H2 D/K VHF: R01-R20 UHF: B21-B69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, S42-S46	PAL, SECAM NTSC3.58/4.43 (video input only)
Spanish	B/G/H, D/K	PAL B/G/H VHF: E2-E12 UHF: E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF: A-H, H1, H2 D/K VHF: R01-R20 UHF: B21-B69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, S42-S46	PAL, SECAM NTSC3.58/4.43 (video input only)
OIRT	B/G/H, D/K	B/G/H VHF: E2-E12 UHF: E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF: A-H, H1, H2 D/K VHF: R01-R12 UHF: R21-R69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, S42-S46	PAL, SECAM NTSC3.58/4.43 (video input only)
Irish UK	I	UHF: U21-U69	PAL NTSC3.58/4.43 (video input only)

MODEL	29X1A	29X1B	29X1D	29X1E	29X1K 29X1R	29X1L 29X1U
Power Consumption	87W	101W	101W	101W	101W	149W

SPECIFICATIONS

Picture Tube

Super Trinitron
Approx. 72 cm (29 inches)
(Approx. 68 cm picture measured
diagonally)
110° -deflection

[FRONT]

- 3 , Video input - phono jack
- 3 , Audio inputs - phono jacks
- 3 , S video input - 4 pin DIN
- Stereo minijack - headphone jack

Rear/Front Terminals

[REAR]

- 1 21-pin Euro connector (CENELEC standard)
 - Inputs for audio / video signals
 - Inputs for RGB
 - Outputs for TV audio and video signals
- 2/-→ 2, 21-pin Euro connector (CENELEC standard)
 - Inputs for audio / video signals
 - Inputs for S video
 - Outputs for TV audio and video signals (selectable)

Sound output

- | | |
|----------------------|---------------------------------------------------------------------|
| Left/Right | 2x10W (RMS) |
| | 2x20W (music power) |
| Dimensions | 676x557x528 mm approx. |
| Weight | Approx. 43.0 kg |
| Supplied accessories | RM-839 Remote Commander (1)
Batteries R6 (2)
Fastext, TOPTEXT |
| Other features | |

[RM-839]

Remote control system	Infrared control
Power requirements	3V dc (2 batteries) R6 (size AA)
Dimensions	Approx. 210x45x24 mm (w/h/d)
Weight	Approx. 90g (Not including battery)

Design and specifications are subject to change without notice.

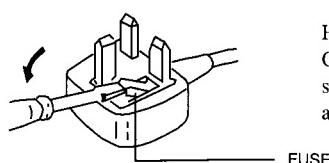
Item \ Model name	KV-29X1A	KV-29X1B	KV-29X1D	KV-29X1E	KV-29X1K KV-29X1R	KV-29X1L KV-29X1U
PIP	OFF	OFF	OFF	OFF	OFF	OFF
MPIP	OFF	OFF	OFF	OFF	OFF	OFF
Rotation Coil	ON	ON	ON	ON	ON	ON
VM Set	ON	ON	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON
TXT	ON	ON	ON	ON	ON	ON
FLOF	ON	ON	ON	ON	ON	ON
TOP	ON	ON	ON	ON	ON	ON
Norm B/G/H	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	ON
Norm D/K	OFF	ON	ON	ON	ON	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Language Preset	Italian	French	German	Spanish	OIRT	English

WARNING (KV-29X1L/29X1U only)

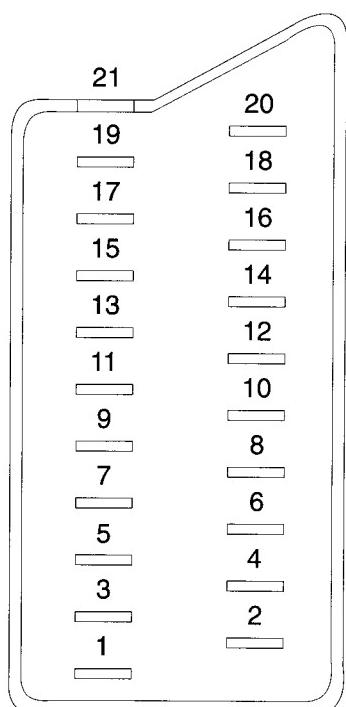
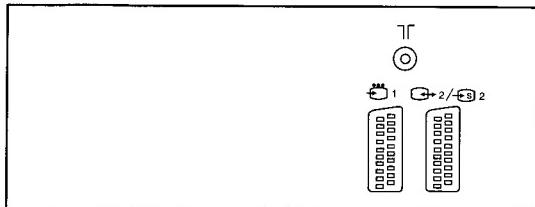
The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA to BS 1362**, ie one that carries the  mark.

**IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME.
IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED.
THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.**

When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with the screwdriver blade
and replace the fuse.

21 pin connector ( 1,  2 /  2)

Pin No.	1	2	4	Signal	Signal Level
1	○	○	○	Audio output B (Right)	Standard level : 0.5V rms Output impedance : Less than 1k ohms*
2	○	○	○	Audio input B (Right)	Standard level : 0.5V rms Output impedance : More than 10k ohms*
3	○	○	○	Audio output A (Left)	Standard level : 0.5V rms Output impedance : Less than 1k ohm*
4	○	○	○	Ground (Audio)	
5	○	○	○	Ground (Blue)	
6	○	○	○	Audio input A (Left)	Standard level : 0.5V rms Output impedance : Less than 10k ohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (Green)	
10	○	○	○	Open	
11	○	●	●	Green	
12	○	○	○	Open	
13	○	○	○	Ground (Red)	
14	○	○	○	Ground (Blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) chroma input	0.7 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (Video output)	
18	○	○	○	Ground (Video input)	
19	○	○	○	Video output	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
20	○	—	—	Video input	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (Open) * at 20Hz - 20kHz

Pin No.	Signal	Signal Level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm, positive Sync. 0.3V -3 + 10dB
4	C (S signal) input	0.3V ± 3dB 75ohm, positive Sync.

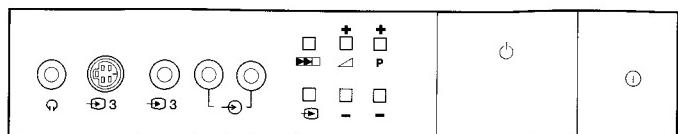


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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND, IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

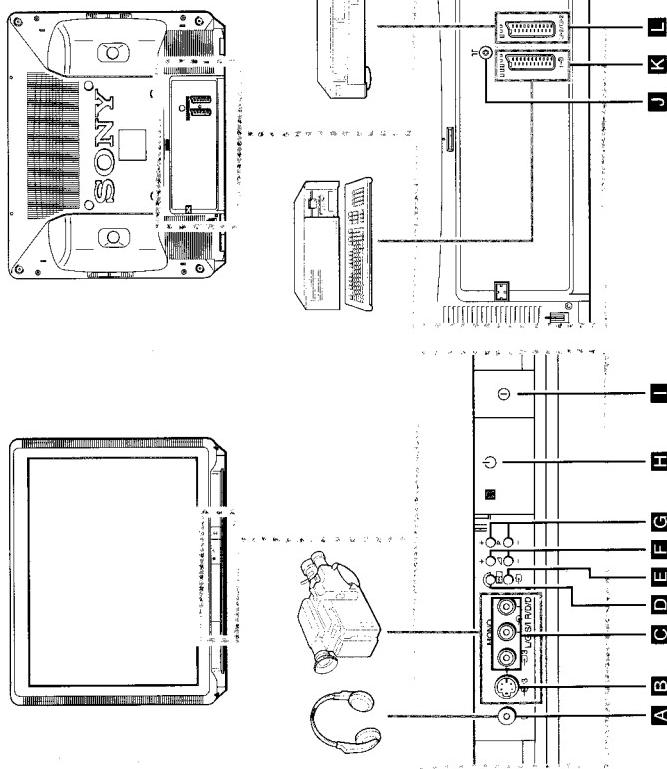
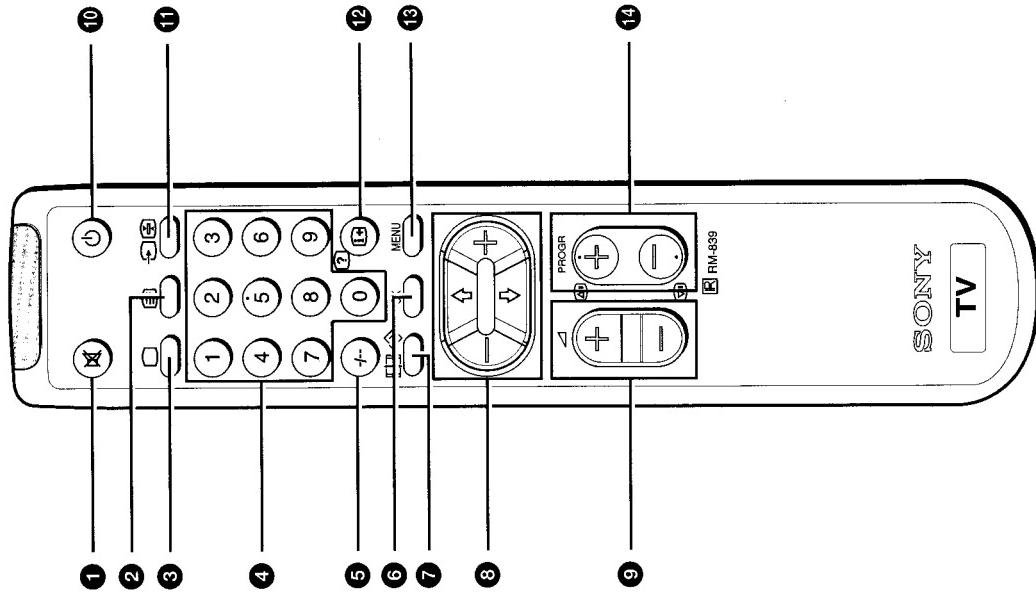
AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE. LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDICUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.



Overview

Overview

Overview

This section briefly describes the controls and the buttons on the TV set and on the Remote Commander. Please open the flap at the front of the instruction manual for illustrations of the TV set and the Remote Commander. Letters in boxes refer to the buttons on the TV set; numbers in circles to the buttons on the Remote Commander. For more information, refer to the page numbers given next to each description.

TV buttons and Terminals

Reference and Symbol	Name	Refer to Page
Front of the set		
A	Headphones jack	4
B	S video input jack	29
C	Audio/video input jacks	29
D	Automatic Preset button	11
E	Input mode button	13
F	Volume control	12
G	Programme button	12
H	Standby mode indicator	12
I	Main power switch	12
Rear of the set		
J	Aerial socket	10
K	21 pin Euro connector	29
L	21 pin Euro connector	29

Remote Commander Operation

Reference and Symbol	Name	Refer to Page
TV buttons		
1	Muting on/off button	12
2	Teletext button	13
3	TV power on/TV mode button	12, 13
4	Number buttons	12
5	Double digit entering button	12
6	OK (Confirmation) button	14
7	Screen format button	12, 28
8	Teletext: Favourite pages button	14
9	Menu control	14
10	Volume control button	12
11	Standby button	12
12	Input mode button	12, 27
13	Teletext: Freezing the subpage	13, 27
14	On-screen display button	12, 27
15	Teletext: reveal button	12, 27
16	Programme buttons	12, 13
17	Page up/page down buttons	12, 13
18	Teletext: Page up/page down buttons	12, 13
19	Main power switch	14
20	Aerial socket	10
21	21 pin Euro connector	29
22	21 pin Euro connector	29

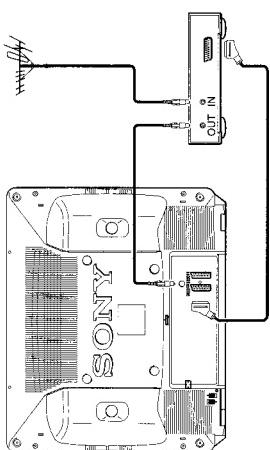
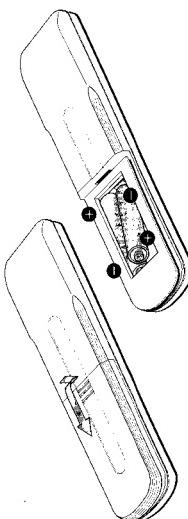
Step 1**Connecting the Aerial**

(If you connect a VCR, skip to step 2)

Insert the aerial plug tightly into the aerial socket   Use a good-quality aerial cable (not supplied), corresponding to the relevant regulations.

Step 2**Connecting a VCR**

We recommend that you tune in the VCR signal to programme number "0". For details, see "Presetting Channels Manually" on page 16.
See "Connecting Optional Equipment" on page 29 for more information.

**Step 3****Inserting the Batteries Into the Remote Commander**

Respect your environment! Dispose of used batteries in an environmentally friendly way.

Step 4**Presetting Channels Automatically**

With this function, the TV can automatically search and store up to 100 different channel numbers.

If you prefer manual presetting, refer to "Presetting Channels Manually" on page 16.

- 1 Plug into mains.
Press the power switch  on the TV set.

- 2 Press and hold the button   on the TV set until the automatic menu is displayed and the search starts.

After all available channels are stored, the normal TV picture is shown.

Note: Channels are automatically stored as follows:

KV25X1U/29X1U	KV-25X1L/29X1L
Programme 1 BBC1	Programme 1 RTE1
Programme 2 BBC2	Programme 2 RTE2
Programme 3 ITV	Programme 3 BBC1
Programme 4 CH4 or S4C	Programme 4 BBC2
	Programme 5 ITV
	Programme 6 CH4 or S4C

TV Operation

This section explains functions used whilst watching TV. Most operations are carried out using the remote commander (numbers in circles). All basic functions are also available on the TV set (letters in boxes). Open the flap at the front of the Instruction Manual to see the illustrations of the Remote Commander and the TV set.

TV Operation

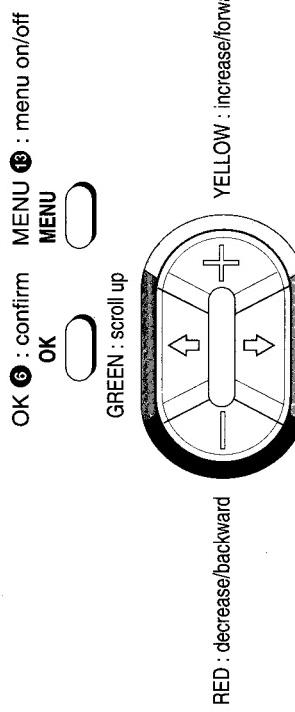
To	Press
Switch on	① I on TV
Switch off temporarily	⑤ 10 TV is now in standby mode and ⑤ H indicator on TV lights up.
Switch on from standby mode	② 3 , PROGR + / - ④ G or any number button 4 .
Switch off completely	① I on TV To save energy, switch off your TV completely when TV is not in use.
Select programmes	PROGR + / - ④ G or number buttons 4 For double digit number, press - / - ⑤ then the number e.g. For 23, press - / - ⑤ then 2 and 3.
Display on screen indications	⑫ 12 . Press again to make the indications disappear.
Adjust the volume	△ + or - ⑨ F
Mute the sound	⑩ 1 . Press again to restore the sound.
View programmes in 16:9 mode	⑪ 7 . Press again to return to 4:3 mode.

TV Operation (continued)

To	Press
View video input picture (see page 30 for detailed information)	⑦ E repeatedly until the desired video input appears. Press ③ to restore the TV picture.
View teletext (see page 27 for detailed information)	View teletext (see page 27 for detailed information)
Switch on	③ 2
Select a page	three number buttons 4 or ⑧ 14 (for next page) or ⑨ 14 (for previous page).
Use fasttext	Blue, Green, Red or Yellow 8 .
Switch off	③

Adjusting and Setting the TV Using the Menu

You can adjust and set various functions on the TV using the following remote commander buttons:

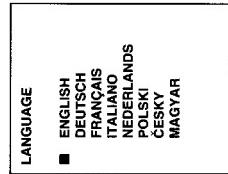


Choosing the Menu Language

This function enables you to change the language of the menu screens.

- 1 Press power switch ① **I** on the TV. If the standby indicator **H** on the TV is lit, press **C** ③ or a number button ④ on the Remote Commander.

- 2 Press the MENU button ③ on the remote commander.



- 3 Press blue or green ⑧ to select the language you want then press yellow ⑨.

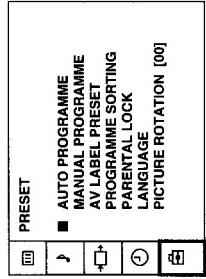
- 4 Press the MENU button ③ to restore the normal TV picture.

Presetting Channels Automatically

You may have already preset the channels automatically by using the method shown on page 11. You can also preset channels automatically by using the remote commander as follows:

- 1 Press the MENU button ③.

- 2 Press blue or green ⑧ to select the symbol on the menu screen then press yellow ⑨.



- 3 Press blue or green ⑧ to select 'AUTO PROGRAMME'.

- 4 Press and hold yellow ⑨ until the automatic menu is displayed and the search starts.
After all available channels have been preset, the normal TV picture is shown.

AUTO PROGRAMME

PROG SYS CH LABEL
01 B/G C25 -----

Presetting Channels Manually

This function enables you to preset channels one by one to different programme numbers. This is also convenient for allocating programme numbers to various video input sources.

1 Press the MENU button **③**.



2 Press blue or green **⑧** to select the symbol on the menu screen then press yellow **⑨**.

MANUAL PROGRAMME PRES				
PROG	SYS	CHAN	LABEL	AFT
1	BIG	C 1	-----	ON
2	BIG	C 4	-----	ON
3	BIG	C12	-----	ON
■ 4	BIG	C22	-----	ON
5	BIG	C33	-----	ON
6	BIG	C41	-----	ON
7	BIG	C17	-----	ON
8	BIG	C32	-----	ON

3 Press blue or green **⑧** to select 'MANUAL PROGRAMME' then press yellow **⑨**.

4 Press blue or green **⑧** to select on which programme number you want to preset a channel then press yellow **⑨**.

5 Press blue or green **⑧** to select the TV broadcast system 'T' or a video input source (AV1, AV2, ...) then press yellow **⑨**.

6 (This step 6 is only for KV-25X1L/29X1L)
Press blue or green **⑧** to select 'C' (for terrestrial channels) or 'S' (for cable channels) then press yellow **⑨**.

7 Select the first number digit of 'CHAN' then the second number digit of 'CHAN' with the number buttons **④** on the remote commander
or
Press blue or green **⑧** to search for the next available channel number.

8 If you want to store the channel number, go to step 9. If not, select a new channel number using the number buttons **④** on the remote commander or press blue or green **⑨** to resume the search.

9 Press OK **⑥**.

10 Repeat steps 4 to 9 to preset other channels.

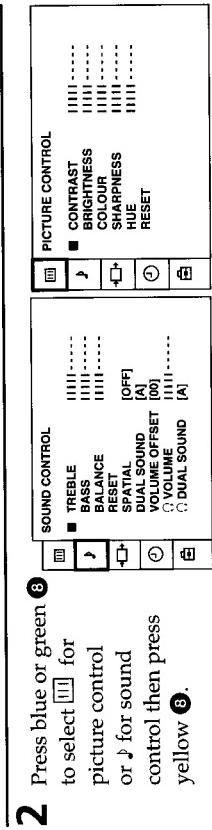
11 Press the MENU button **⑬** to restore the normal TV picture.

Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste.

Adjusting the Picture and Sound (continued)

- 1** Press the MENU button ⑯.



- 3** Press blue or green ⑧ to select the desired item then press yellow ⑧.

- 4** Press red or yellow ⑧ to alter the item then press OK ⑥.

For the effect of each control, see the following tables.

- 5** Repeat steps 3 and 4 to adjust the other items.

- 6** Press the MENU button ⑯ to restore the normal TV picture.

SOUND CONTROL	Effect
Treble	Less — — More
Bass	Less — — More
Balance	Left — — Right
Reset	Resets sound to the factory preset levels.
Spatial	Acoustic sound effect.
Dual Sound	A: Left channel —> B: Right channel —> stereo —> mono
Volume Offset	Presets the volume level for individual programmes.
Volume	-12 — — 0 — — +12 Adjusts the headphone volume.
Dual Sound	Presets the headphone channels. A: Left channel —> B: Right channel —> stereo —> mono

PICTURE CONTROL	Effect
Contrast	Lower — — Higher
Brightness	Darker — — Brighter
Colour	Less — — More
Sharpness	Softer — — Sharper
Hue	Greenish — — Reddish (NTSC signals only)
Reset	Resets picture to the factory preset levels.

Manual Fine-Tuning

Normally, the automatic fine-tuning (AFT) function is operating.

If the picture is distorted however, you can manually fine-tune the TV to obtain a better picture reception.

- 1 Press the MENU button ⑬.

- 2 Press blue or green ⑧ to select the symbol  on the menu screen then press yellow ⑨.

MANUAL PROGRAMME PRESET			
PROG	SYS	CHAN	LABEL
1	BIG	C 1	AFT
2	BIG	C 4	---
3	BIG	C12	ON
4	BIG	C22	---
5	BIG	C33	ON
6	BIG	C41	---
7	BIG	C17	ON
8	BIG	C32	---

- 4 Press blue or green ⑧ to select 'MANUAL PROGRAMME' then press yellow ⑨.

- 5 Press yellow ⑨ repeatedly until the AFT position changes colour..

- 6 Press blue or green ⑧ to change the frequency of the channel from -15 to +15.

- 7 Press OK ⑥.

- 8 Repeat steps 4 to 7 to fine-tune other channels.

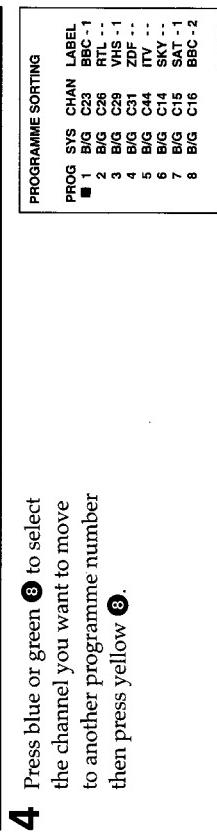
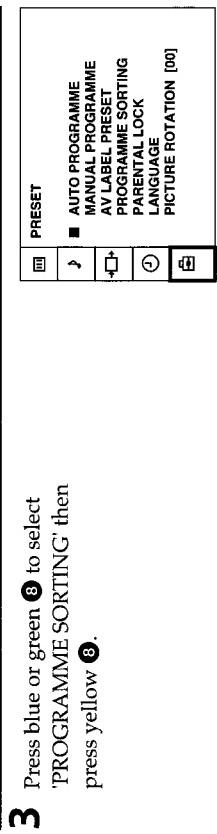
- 9 Press the MENU button ⑬ to restore the normal TV picture.

Sorting Programme Positions

This function enables you to move channels to different programme numbers.

- 1 Press the MENU button ⑬.

- 2 Press blue or green ⑧ to select the symbol  on the menu screen then press yellow ⑨.



- 3 Press blue or green ⑧ to select 'PROGRAMME SORTING' then press yellow ⑨.

- 4 Press blue or green ⑧ to select the channel you want to move to another programme number then press yellow ⑨.

- 5 Press blue or green ⑧ to select the programme number to which you want to move the channel selected in step 4 then press yellow ⑨.

- 6 Repeat steps 4 to 5 if you wish to move other channels to different programme numbers.

- 7 Press the MENU button ⑬ to restore the normal TV picture.

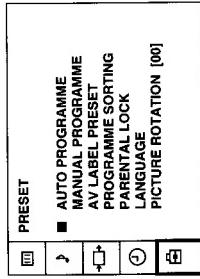
Using Parental Lock

This function enables you to prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press the MENU button ⑬.

2 Press blue or green ⑧ to select the symbol ④ on the menu screen then press yellow ⑨.

3 Press blue or green ⑧ to select 'PARENTAL LOCK' then press yellow ⑨.



4 Press blue or green ⑧ to select the channel you want to block then press yellow ⑨. The symbol ④ appears before the programme number to indicate that this channel is now blocked.

PARENTAL LOCK		
PROG	SYS	CHAN
■ 1	BIG	C23 BBC -1
2	BIG	C26 RTL -
3	BIG	C29 VHS -1
4	BIG	C31 ZDF -
5	BIG	C44 ITV -
6	BIG	C14 SKY -
7	BIG	C15 SAT -1
8	BIG	C16 BBC -2

5 Repeat step 4 if you wish to block other channels.

6 Press the MENU button ⑬ to restore the normal TV picture.

Note: To unblock, press yellow ⑨ after selecting the channel to unblock in the 'PARENTAL LOCK' menu.

Using the Sleep Timer

This function enables you to select a time period after which the TV automatically switches into standby mode.

1 Press the MENU button ⑬.

2 Press blue or green ⑧ to select the symbol ④ on the menu screen then press yellow ⑨.

3 Press yellow ⑨.

4 Press red or yellow ⑨ to set time delay and press OK ⑥.

OFF 0:30 1:00 1:30 3:30 4:00

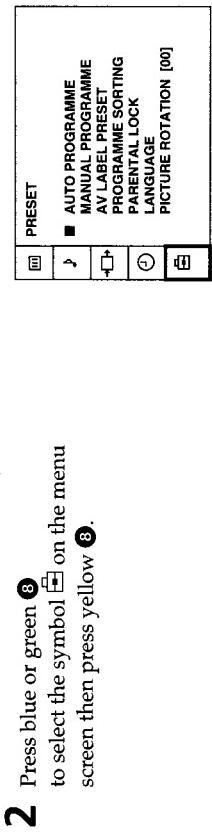
One minute before the TV switches into standby mode, a message is displayed on the screen.

5 Press the MENU button ⑬ to restore the normal TV picture.

Adjusting the Picture Rotation

If, due to the earth magnetism, the picture slants, you can use the function 'Picture Rotation' to readjust the picture.

1 Press the MENU button ⑬.



2 Press blue or green ⑧ to select the symbol on the menu screen then press yellow ⑧.

- 3** Press blue or green ⑧ to select 'MANUAL PROGRAMME' then press yellow ⑧.

4 Press red or yellow ⑧ to adjust the picture rotation then press OK ⑯. The adjusting range is -5 to +5.

5 Press the MENU button ⑬ to restore the normal TV picture.

Skipping Programme Positions

This function enables you to skip unused channels when selecting programme numbers with the PROG R+/- buttons. However, you can still watch the skipped channel(s) by using the number buttons.

1 Press the MENU button ⑬.

2 Press blue or green ⑧ to select the symbol on the menu screen then press yellow ⑧.

- 3** Press blue or green ⑧ to select 'MANUAL PROGRAMME' then press yellow ⑧.

4 Press blue or green ⑧ to select the channel you want to skip then press yellow ⑧.

- 5** Press blue or green ⑧ until '---' appears in the 'SYS' position.

MANUAL PROGRAMME PRESET			
PROG	SYS	CHAN	LABEL
1	BIG	C 1	OFF
2	BIG	C 4	---
3	BIG	C12	ON
4	BIG	C22	---
5	BIG	C33	ON
6	BIG	C41	---
7	BIG	C17	ON
8	BIG	C32	---

6 Press OK ⑯.

7 Repeat steps 4 to 6 to skip other channels.

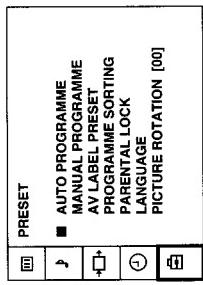
8 Press the MENU button ⑬ to restore the normal TV picture.

Captioning a Station Name

Names for channels are usually automatically taken from teletext if available. You can however name a channel or an input video source using up to five characters (letters or numbers).

1 Press the MENU button ⑬.

2 Press blue or green ⑧ to select the symbol on the menu screen then press yellow ⑨.



4 Press blue or green ⑧ to select the channel you wish to caption then press yellow ⑨ repeatedly until the first element of the 'LABEL' position is highlighted.

5 Press ⑥ blue or green to select a letter or number and press yellow ⑨ (select '-' for a blank). Select other characters in the same way.

MANUAL PROGRAMME PRESET			
PROG	SYS	CHAN	LABEL
1	BIG	C 1	AFT ----- ON
2	BIG	C 4	----- ON
3	BIG	C12	----- ON
4	BIG	C22	K----- ON
5	BIG	C33	----- ON
6	BIG	C41	----- ON
7	BIG	C17	----- ON
8	BIG	C32	----- ON

6 After selecting all the characters, press OK ⑩.

7 Repeat steps 4 to 6 to caption names for other channels.

8 Press the MENU button ⑬ to restore the normal TV screen.

Most TV channels broadcast information via teletext. The index page of the broadcaster (usually page 100) gives you information on how to use the service.
Make sure you use a TV channel with a strong signal, otherwise teletext errors may occur.

Switching Teletext On and Off

1 Select the channel which carries the teletext service you wish to view.

2 Press ② to display teletext. If no teletext signal is broadcast, the indication P100 is displayed on a black screen.

3 Input three digits for the page number using the number buttons ④. The page counter searches for the page and after some seconds the page is displayed.

4 Press ③ to return to the normal TV picture.

Using Other Teletext Functions

To **Press**

Access the next or preceding teletext page ⑪ for the next page or ⑫ for the preceding page

② when in teletext mode. Now the teletext page is superimposed on the TV programme. Press again to return to the normal teletext display.

Freeze a teletext subpage ⑪. Press once again to cancel.

Reveal hidden information ⑦ ⑫. Press once again to cancel.
(eg: answers to a quiz)

Favourite page system

You can store up to four of your favourite teletext pages per Teletext service. In this way you have quick access to the pages you frequently use.

Storing pages

1 Use the number buttons **④** to select the page you would like to store.

2 Press \leftrightarrow **⑦** twice.

The colour prompts at the bottom of the screen flash.

3 Press red, green, blue or yellow to store the selected page.

The page is now stored on this colour.

Repeat steps 1 to 3 for the other 3 pages.

Displaying the Favourite Pages

1 Press \leftrightarrow **⑦**.

2 Press blue, green, red or yellow to select the desired page.

Make sure you press \leftrightarrow **⑦**, otherwise the normal Fastext facility operates.

Using Fastext

(only available, if the TV station broadcasts Fastext signals)

With Fastext you can access pages with one key stroke. When Fastext is broadcast, a colour-coded menu appears at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue colours on the Remote Commander.

Press the Remote Commander colour button that corresponds to the colour-coded menu. The selected page is displayed after some seconds.

Connecting Optional Equipment

There is a wide range of optional equipment you can connect to your TV.
Refer to the illustrations on the front flap page of this manual.

Symbol	Acceptable input signals	Available output signals
\rightarrow 3, \rightarrow 3 B	Normal audio / video and S video	No output
\rightarrow 3 C		
\rightarrow 1 K	Normal audio / video and RGB	Audio / video from TV tuner
\rightarrow 2 / \rightarrow 2 I	Normal audio / video and S video	Audio / video from selected source

About S video input

Video signals may be separated into Y (luminance) and C (chrominance) signals. Separating the two signals prevents interference and thus improves the picture quality.

Notes on connections:

If the picture or sound is distorted, move the VCR away from the TV.
When connecting a monaural VCR, connect only the white jack to both the TV and VCR.

Selecting Input and Output Signals

This section explains how to select the output signal from $\rightarrow 2/\square 2$ **L** and how to select and view the input. You can use direct access buttons $\rightarrow ① \square$ **E** to select the input or the menu system to select input and output.

Selecting With Direct Access Buttons

Press $\rightarrow ① \square$ **E** repeatedly.

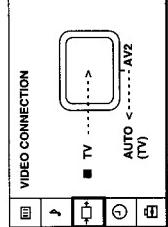
Press **□** **3** to restore the normal TV picture.

Symbol on the screen	Input Signal
$\rightarrow 1$	Audio / video through Euro AV connector K
$\rightarrow 2$	RGB through Euro AV connector K
$\rightarrow 2$	Audio / video through Euro AV connector L
$\rightarrow 2$	S video through Euro AV connector L
$\rightarrow 3$	Audio / video through the phono jacks C
$\rightarrow 3$	S video through the phono jacks B

Selecting With the Video Connection Menu

1 Press the MENU button **⑬**.

2 Press blue or green **⑧** to select "VIDEO CONNECTION" then press yellow **⑨**.



3 Press blue or green to select input or output then press yellow **⑨**.

4 Press blue or green repeatedly to select the desired input or output source then press OK **⑥**.

5 Press the MENU button **⑬** to restore the normal TV picture.

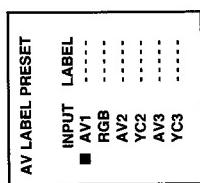
Note: If you select 'AUTO' for output, the output source automatically becomes the same as the desired input source.

Using AV Label Preset

This function enables you to label the input sources using up to five characters (letters or numbers).

1 Press the MENU button **⑬**.

2 Press blue or green **⑧** to select the symbol **E** on the screen then press yellow **⑨**.



3 Press blue or green **⑧** to select 'AV LABEL PRESET' then press yellow **⑨**.

4 Press blue or green **⑧** to select the desired input source then press yellow **⑨**.

5 Press blue or green **⑧** to select a letter or number then press yellow **⑨** (select '-' for a blank). Select other characters in the same way.

6 After selecting all the characters, press OK **⑥**.

7 Repeat steps 4 to 6 to label other input sources.

8 Press the MENU button **⑬** to restore the normal TV screen.

Troubleshooting

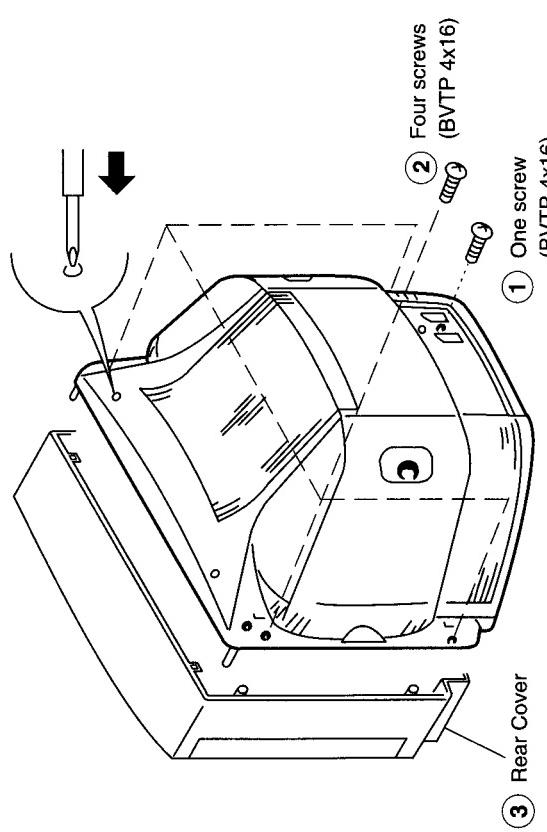
Here are some simple solutions to the problems which affect the picture and sound.

Problem	Solution
No picture (screen is dark), no sound	<ul style="list-style-type: none"> • Plug the TV in. • Press ① on the TV. (If ⑤, indicator H is on, press ② or a programme number ④ on the Remote Commander.) • Check the aerial connection. • Check if the selected video source is on. • Turn the TV off for 3 or 4 seconds then turn it on again using ①.
Poor or no picture (screen is dark), but good sound	<ul style="list-style-type: none"> • Press MENU ③ to enter the 'PICTURE' CONTROL menu and adjust 'Contrast', 'Brightness' and 'Colour'.
Poor picture quality when watching an RGB video source.	<ul style="list-style-type: none"> • Press ② ① E repeatedly to select ⑩.
Good picture but no sound	<ul style="list-style-type: none"> • Press ④ + ⑨ F. • If ⑩ is displayed on the screen, press ⑧ ①.
No colour for colour programmes	<ul style="list-style-type: none"> • Press MENU ③ to enter the 'PICTURE' CONTROL menu, select 'Reset' then press OK ⑥.
Remote Commander does not function.	<ul style="list-style-type: none"> • Replace the batteries.

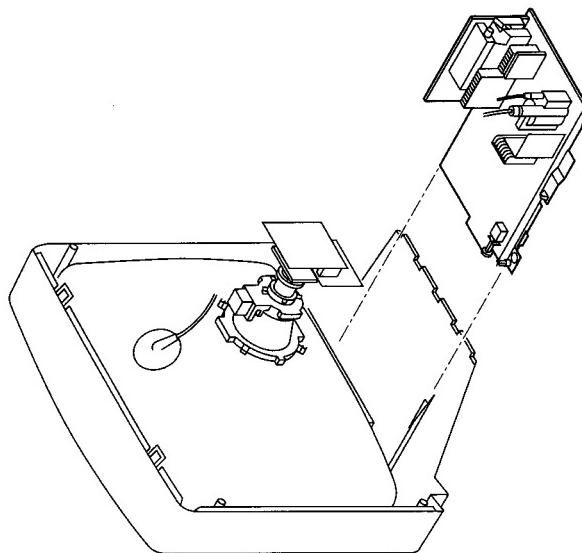
If you continue to have problems, have your TV serviced by qualified personnel.
Never open the casing yourself.

SECTION 2 DISASSEMBLY

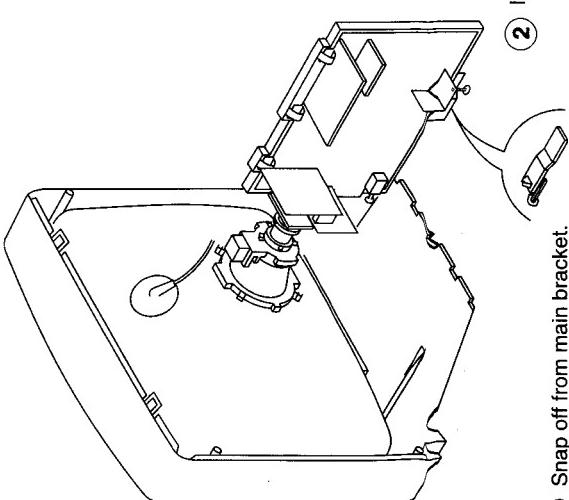
2-1. REAR COVER REMOVAL



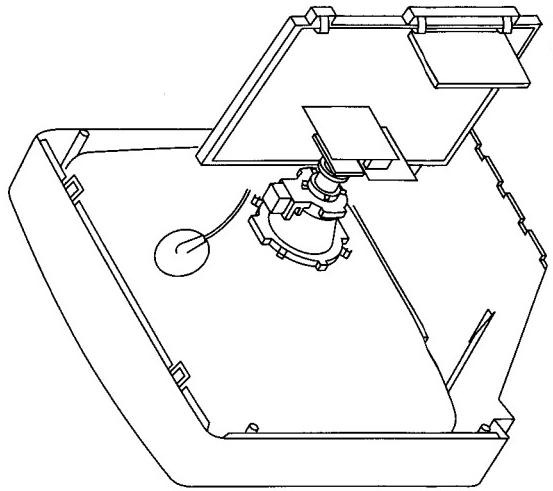
2-2. CHASSIS ASSY REMOVAL



2-3-1. SERVICE POSITION (1)



2-3-2. SERVICE POSITION (2)

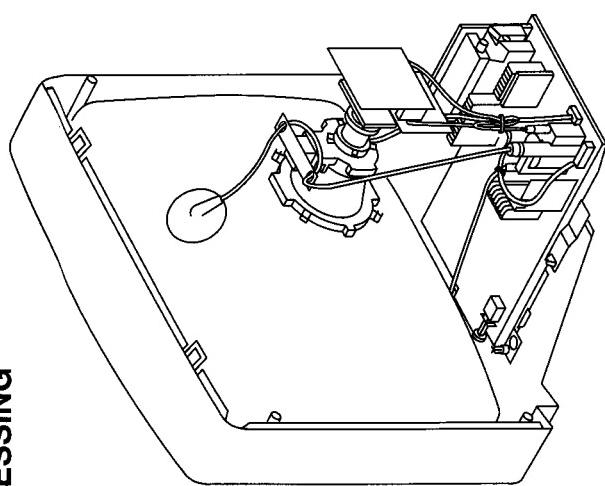


Clip bracket into Bezelnet.

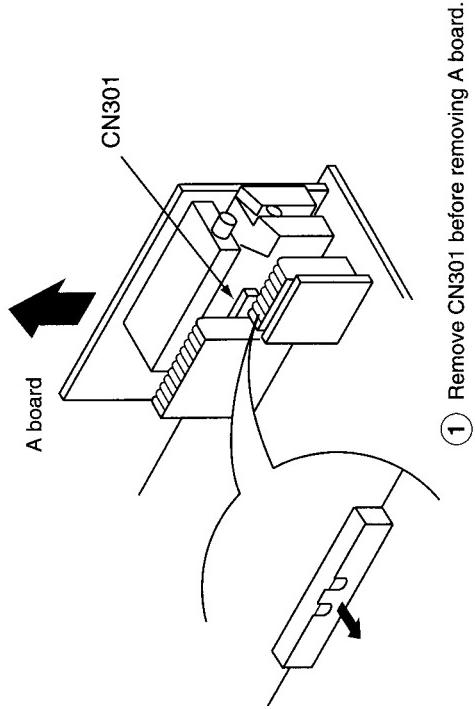
① Snap off from main bracket.

② Insert into heatsink.

2-4. WIRE DRESSING

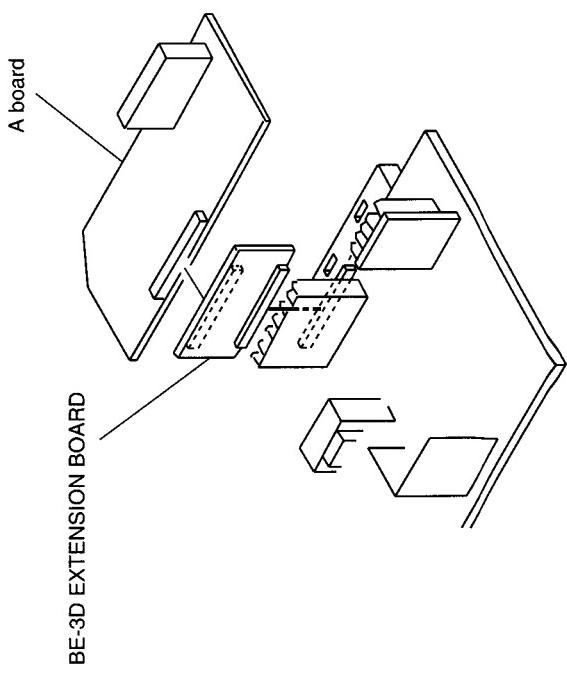


2-5. A BOARD REMOVAL



- ① Remove CN301 before removing A board.

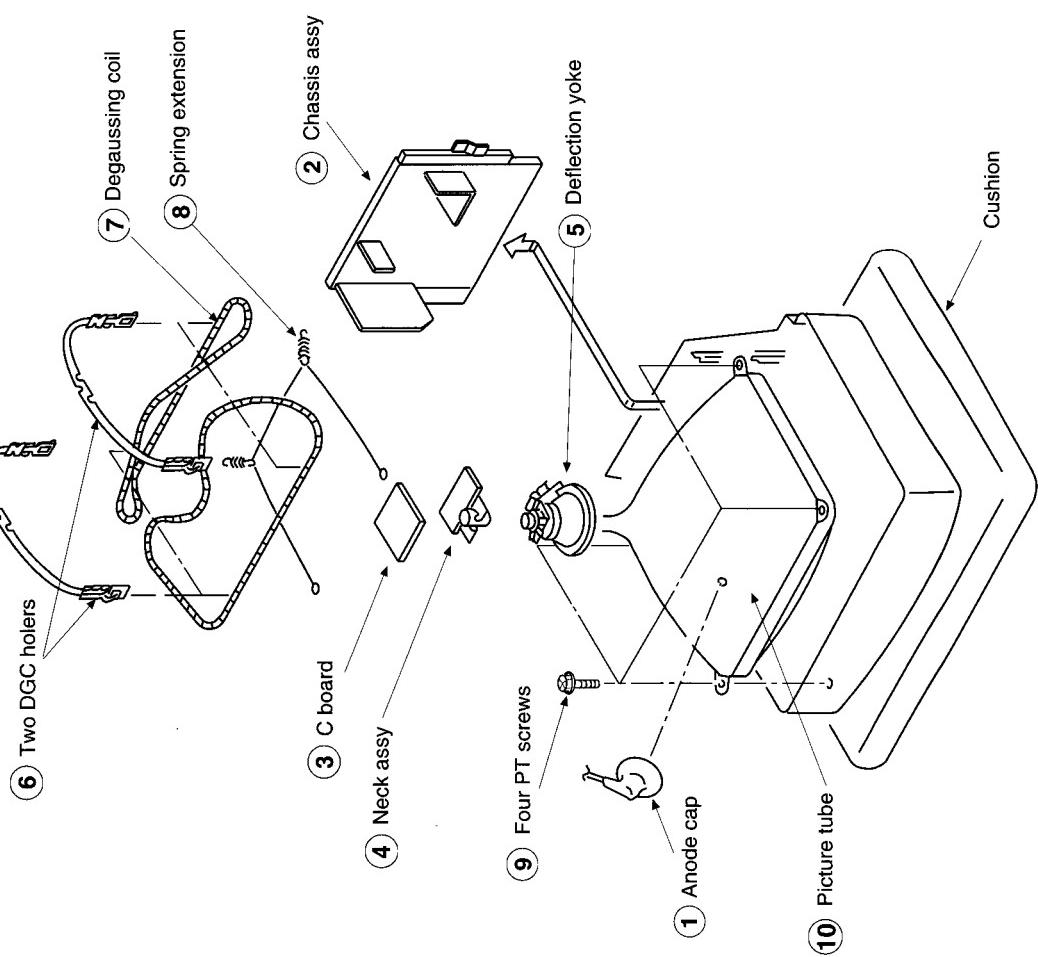
2-6. EXTENSION BOARD



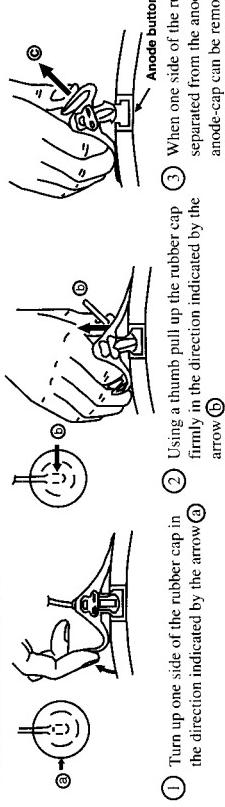
2-7. PICTURE TUBE REMOVAL

- **REMOVAL OF ANODE-CAP**

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.



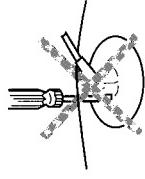
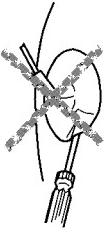
- * **REMOVING PROCEDURES.**



- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ③

- **HOW TO HANDLE AN ANODE-CAP**

- Don't damage the surface of anode-cap with sharp shaped material !
- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !
- A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !
- The shatter-hook terminal will stick out or damage the rubber.



REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the D Board printed circuit, the bottom plates fitted to the main chassis bracket require to be removed. This is performed by cutting the gates with a sharp wire cutter at the locations shown and indicated by arrows.

Note : There are 5 plates fitted to the main bracket and secured by 4 or 6 gates.
Only remove the necessary plate to gain access to the circuit board.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.
The plates are identified by markings A-B-C-D-E on their top side.

1. Identify the plate by locating its marking.
2. Turn the plate over noting where the marking is located.
3. Locate the corresponding marking indicated on the main chassis bracket. See Fig 2.
4. Refit the plate as indicated in Fig 3 with the markings located next to each other.

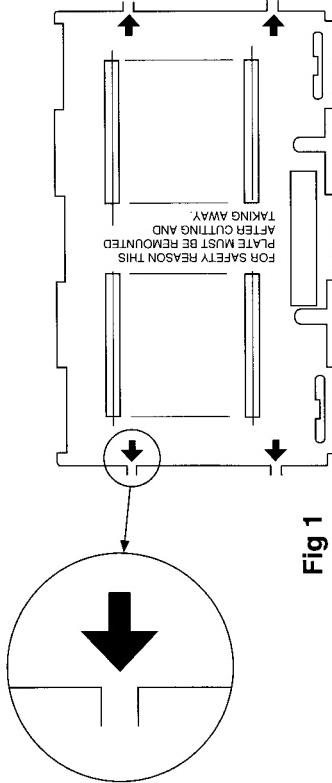


Fig 1

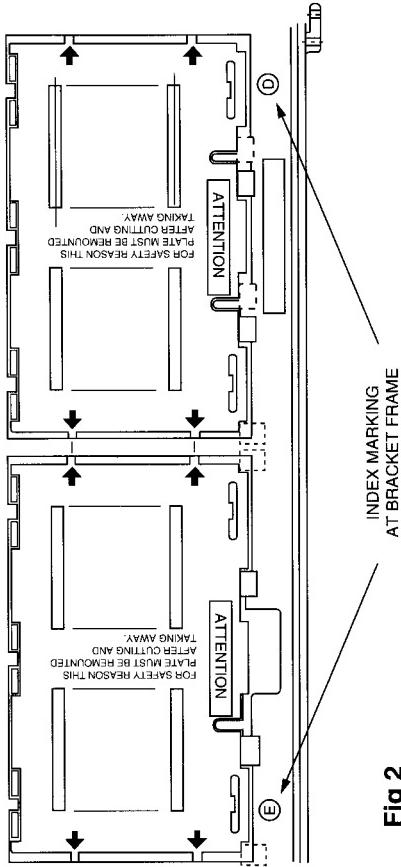


Fig 2

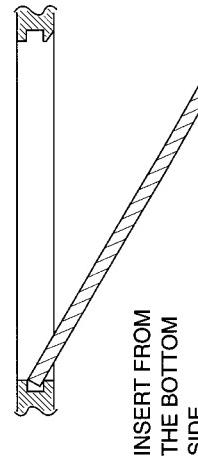


Fig 3

In the event of the plates requiring to be removed at a later stage, this can be achieved by inserting a screwdriver in the snap-recess indicated as in Fig 4 and lifting out.

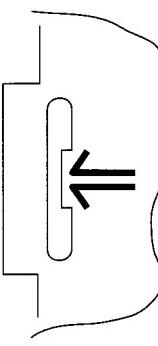


Fig 4

SECTION 3

SET - UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to these settings :
 - Contrast 80% (or remote control normal)
 - ⊗ Brightness 50%

- Carry out the following adjustments in this order :
1. Beam landing
 2. Convergence
 3. Focus
 4. White balance

Note: Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparation:

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
CONTRAST } normal
BRIGHTNESS }
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke forward and adjust with the purity control so that the red is at the centre and the blue and the green take up equally sized areas on each side. (See Fig. 3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that the entire screen becomes red. (See Fig. 3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig. 3-4)

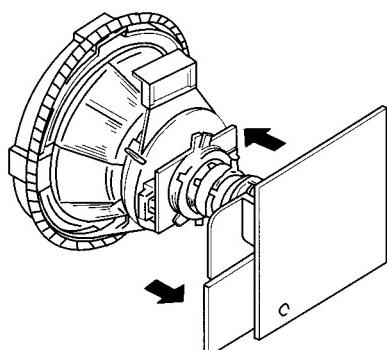


Fig. 3-1

Fig. 3-2

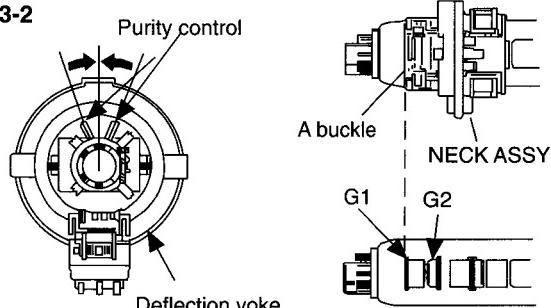


Fig. 3-3

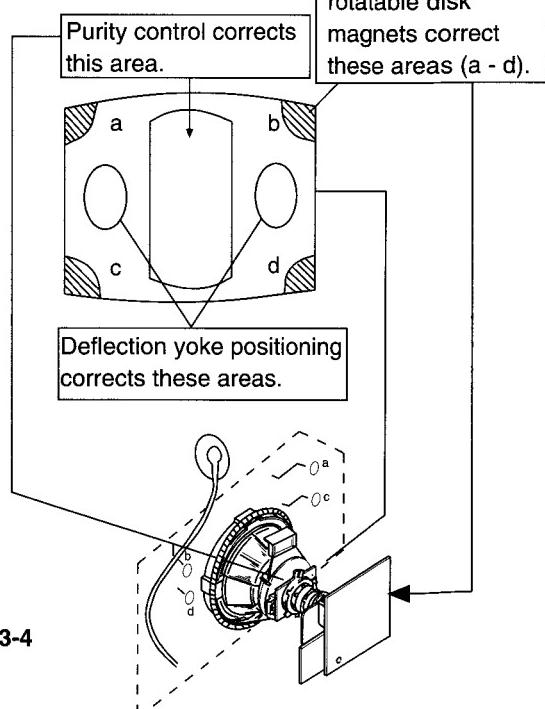
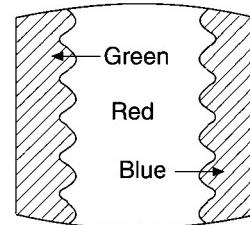


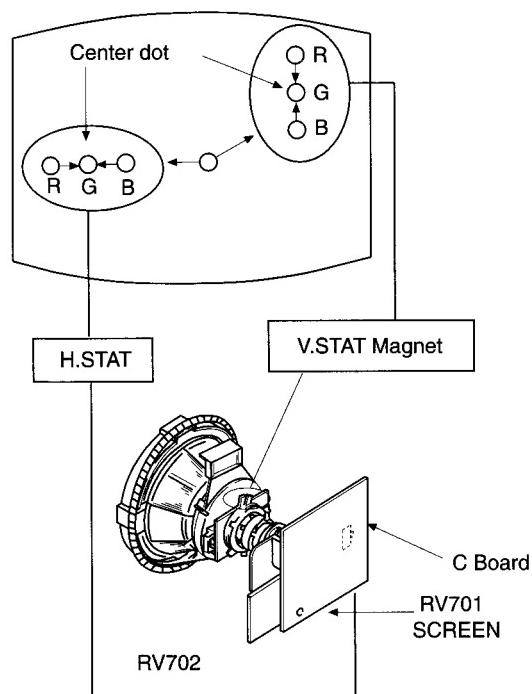
Fig. 3-4

3-2. CONVERGENCE

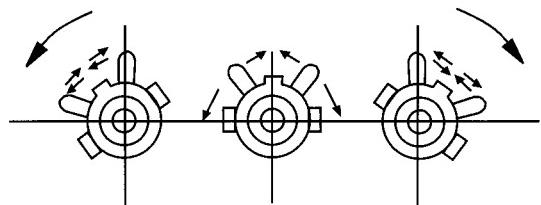
Preparation:

- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide a dot pattern.

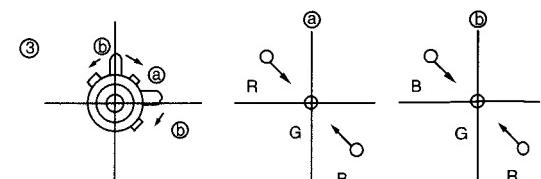
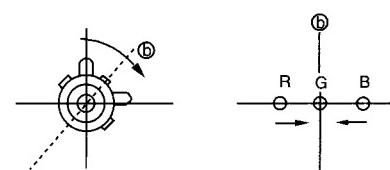
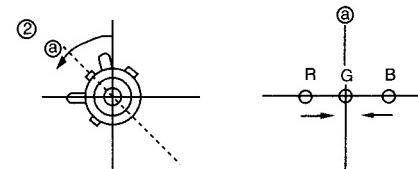
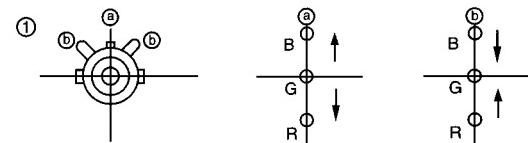
(1) Horizontal and vertical static convergence



- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

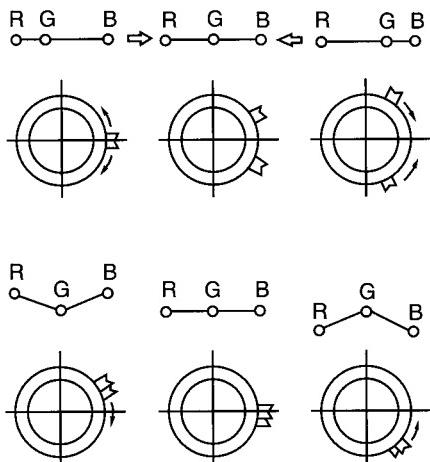


- If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the red, green, and blue points move as shown below.

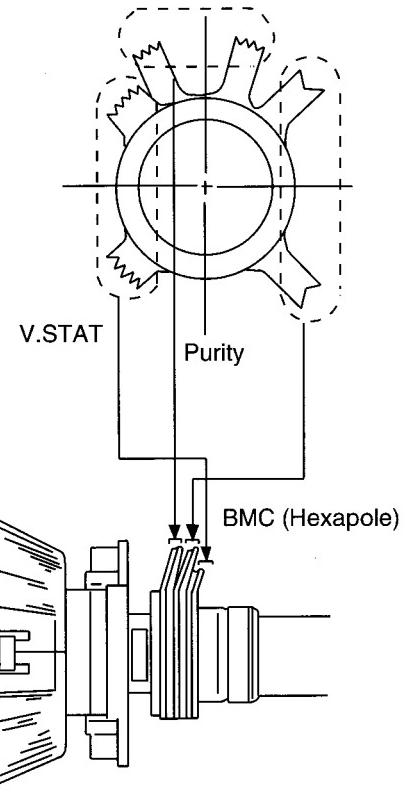


- (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the centre of the screen.
- (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the centre of the screen.
- If the H.STAT variable resistor cannot bring the red, green, and blue points together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
(In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

- Operation of BMC (Hexapole) Magnet



- The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the centre of the screen (by moving the dots in the horizontal direction).

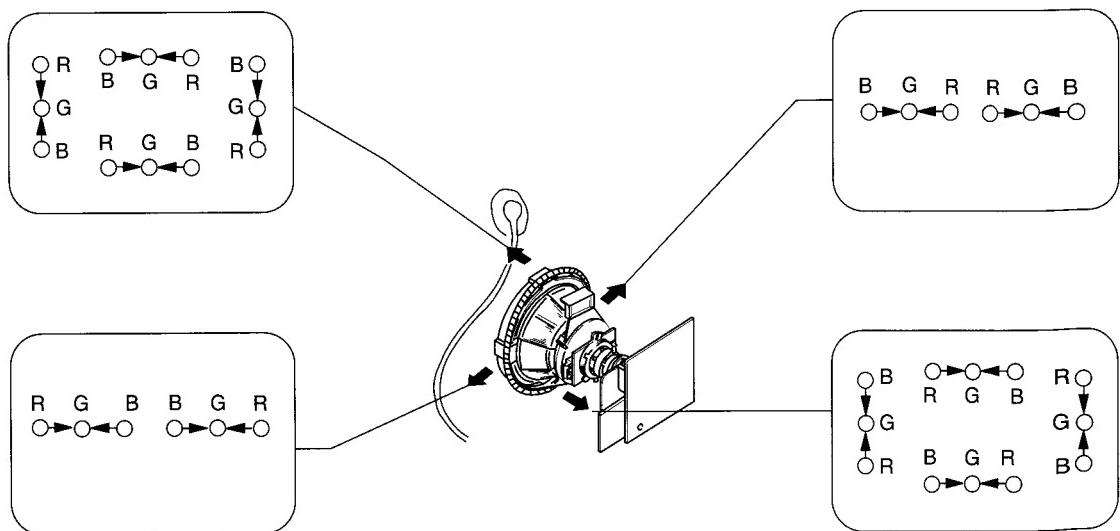


(2) Dynamic convergence adjustment.

Preparation:

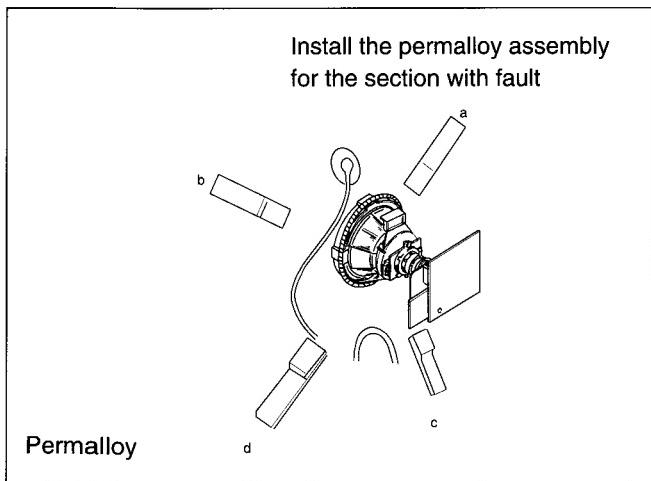
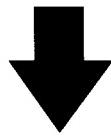
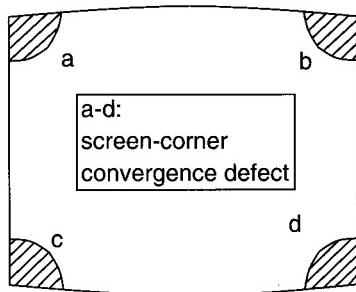
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
- Slightly loosen the deflection yoke screws.

- Remove the deflection yoke spacer.
- Move the deflection yoke as shown in the figure below and optimize the convergence.
- Tighten the deflection yoke screws.
- Re-install the deflection yoke spacer.



(3) Screen corner convergence.

If you are unable to adjust the corner convergence properly, correct them with the use of permalloy assemblies.

**3-3. WHITE BALANCE****G2 Setting**

1. Switch the set into AV mode (apply no signal to the AV connectors).
2. Connect a Volt Meter to Test Point 1 on the A board.
3. Adjust RV01 to obtain a voltage of $3.0V \pm 0.3V$.

White balance adjustment

1. Input an all white signal from the pattern generator.
2. Enter into the service mode.
3. Enter into Picture Adjustment service menu.
4. Select sub-contrast and adjust to 7.
5. Select the Green Drive and adjust so that the white balance becomes optimum.
6. Select the Blue Drive and adjust so that the white balance becomes optimum.
7. Press the TV button to return to TV operation.

PICTURE ADJUSTMENT

AFC mode	1
REF position	2
SCP BGR	1
SCP BGF	1
Trap Fo	0
Sub contrast	Adj
Sub colour	Adj
Sub brightness	Adj
Sub hue	Adj
Green drive	Adj
Blue drive	Adj
Green cutoff	Adj
Blue cutoff	Adj
Gamma	0
Pre / overshoot	0
Y delay	3

SECTION 4

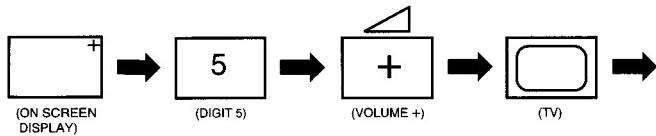
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-839.

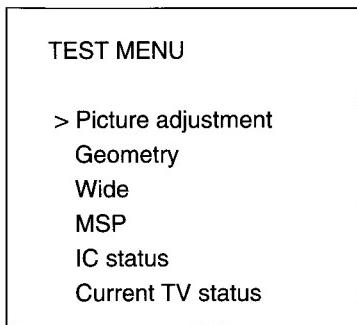
HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set and enter into standby mode.
2. Press the following sequence of buttons on the Remote Commander.



"TT--" will appear in the top right corner of the screen. Other status information will also be displayed.

3. Press MENU on the commander to obtain the following menu on the screen.



4. Move to the corresponding adjustment using the ↓ button on the commander.
5. Press the + button to enter the selected adjustment.
6. Turn off the power to quit the service mode when adjustments are completed.

PICTURE ADJUSTMENT

AFC mode	1
REF position	3
SCP BGR	1
SCP BGF	1
Trap Fo	7
Sub contrast	Adj
Sub colour	Adj
Sub brightness	Adj
Sub hue	Adj
Green drive	Adj
Blue drive	Adj
Green cutoff	Adj
Blue cutoff	Adj
Gamma	0
Pre / overshoot	0
Y delay	5

GEOMETRY ADJUSTMENT

V Size	Adj
V Position	Adj
S Correction	Adj
V Linearity	Adj
H Size	Adj
H Position	Adj
Pin Amp	Adj
Pin Phase	Adj
AFC Bow	Adj
AFC Angle	Adj
EHT V	Adj
EHT H	Adj
Corner Pin	Adj

WIDE

V Aspect	43
V Scroll	31
Upper V Lin	0
Lower V Lin	0
Left Blanking	1
Right Blanking	11

MSP	
AGC ON/OFF	ON
Constant gain CDB	0
FM prescale FMP	36
Zwei mono-st WHI	36
Zwei st-mono WLO	18
Zwei mono-bi WMH	36
Zwei bi-mono WLO	18
Time zwei WML	41
Fawct limit	10
Fawct soll init FAW	12
Fawer tol	2
Nicam Err Max CCT	10
Nicam Err Min	0
Nicam Prescale NIP	97
Time Nicam	31
Carrier mute CRM	OFF
Audio clock ACO	HIZ
Scart prescale	25
Scart volume	64

IC STATUS (CXA2000 / CXA2040)

CXA2000

H lock	1
IKR	1
VNG	0
X-RAY	0
Colour system	3
CV1 Sync	1

CXA2040

Sync sep	1
S1 mode pin	01
S2 mode pin	01

TUNER

Tuner status 01101011

SUB BRIGHTNESS ADJUSTMENT

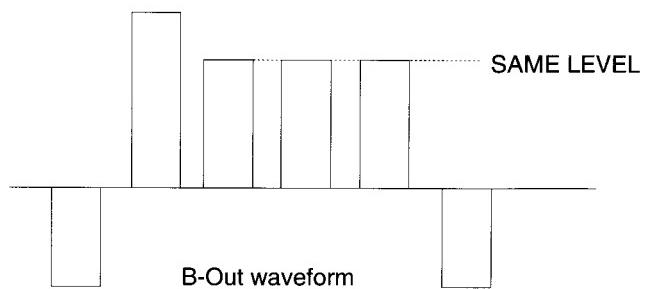
1. Input a Phillips pattern.
2. Set the picture control to minimum.
3. Enter into the Picture Adjustment Service Menu.
4. Adjust the Sub-Brightness data so that there is barely a difference between the 0 IRE and 10 IRE signal.

SUB CONTRAST ADJUSTMENT

1. Input a video that contains a small 100% area on a black background.
2. Set the picture control to maximum.
3. Connect an oscilloscope to pin 3 of CN301 (A board).
4. Enter into the Picture Adjustment Service Menu.
5. Adjust the Sub-contrast data to obtain a black to white amplitude of 2.50 volts.

SUB COLOUR ADJUSTMENT

1. Receive a PAL Colour Bar video signal.
2. Connect an oscilloscope to pin 3 of CN301 (A board).
3. Enter into the Picture Adjustment Service Menu.
4. Adjust the sub colour data so that cyan, magenta and blue colour bars are of equal height.

**TV STATUS**

Text system	C TEXT/TV TEXT
Dolby	NO/YES
Text language set	WEST/EAST/RUSSIAN
Menu language set	WEST/EAST/RUSSIAN
Destination	B/D/U/K/L/E/A/R
Scart 16:9	OFF/ON
RGB priority	OFF/ON
Ageing	OFF/ON
Size	29/25
Colour trap sw	SECAM/ALL
Velocity mod	ON/OFF
AFT STATUS	WINDOW/HIGH/LOW

NOTE: The data shown in the TV STATUS table is dependant on destination, screen size and country.

SYSTEM B/G, D/K, I & L I.F ADJUSTMENT

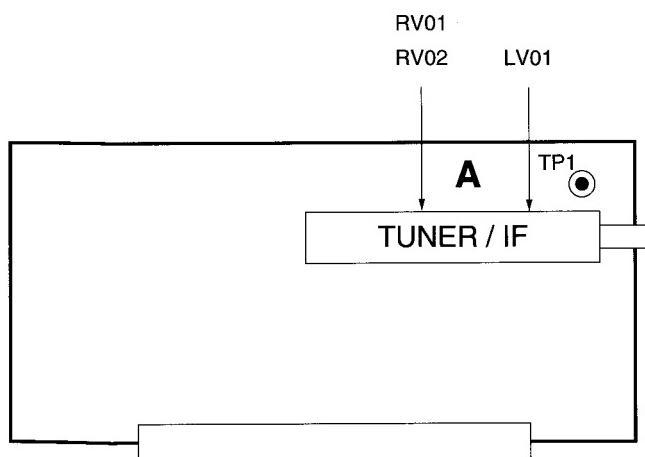
1. Input an off air signal of between 60-100dBuV / 75 ohm terminated, via the tuner socket.
2. Enter into the I.F adjustment service mode (i.e. " TT 59 ") to fix the I.F frequency to 38.9 MHz.
3. Enter into the service mode and select "Current TVStatus".
4. Adjust the I.F coil (LV01) until the "AFT Status" indicates a " Window " condition.

SYSTEM L BAND 1 I.F ADJUSTMENT

1. Input an off air signal of between 60-100dBuV / 75 ohm terminated, via the tuner socket.
2. Enter into the I.F adjustment service mode (i.e. " TT 59 ") to fix the I.F frequency to 34.2 MHz.
3. Enter into the service mode and select "Current TVStatus".
4. Adjust the RV02 until the "AFT Status" indicates a " Window " condition.

TUNER AGC ADJUSTMENT

1. Receive a signal of 63dBuV / 75 ohm terminated via the tuner socket.
2. Measure the voltage at test point 1 (A board).
3. Adjust RV01 to obtain a voltage of $3.0V \pm 0.3V$.



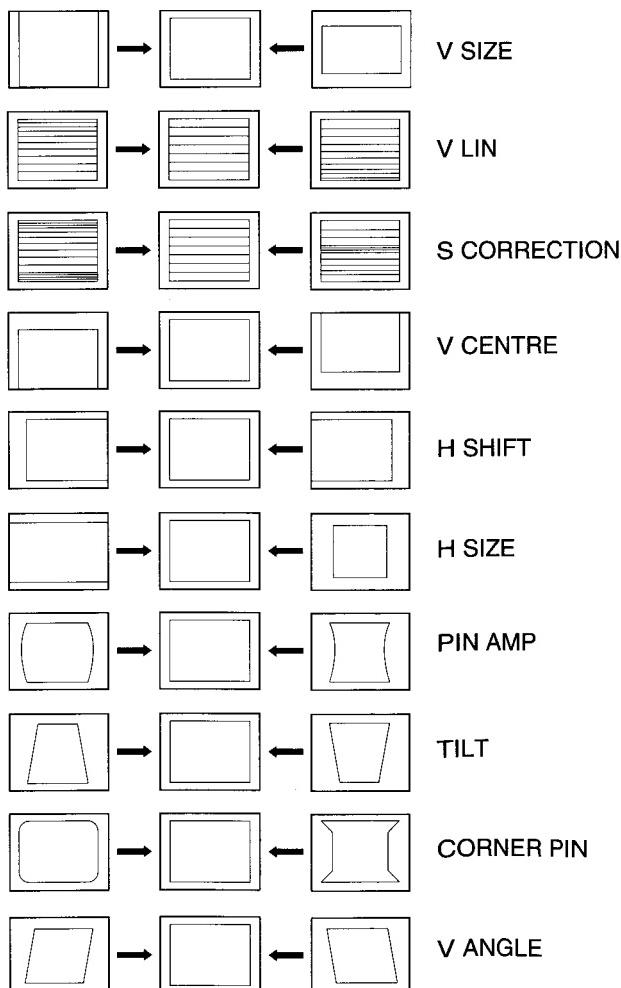
- A Board component side -

DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the Geometry Adjustment Service Menu.
2. Select and adjust each item in order to obtain the optimum image.

GEOMETRY ADJUSTMENT

V Size	Adj
V Position	Adj
S Correction	Adj
V Linearity	Adj
H Size	Adj
H Position	Adj
Pin Amp	Adj
Pin Phase	Adj
AFC Bow	Adj
AFC Angle	Adj
EHT V	Adj
EHT H	Adj
Corner Pin	Adj



4-2. TEST MODE 2:

Is available by pressing Test button twice, OSD " TT " appears. The functions described below are available by pressing the two numbers. To release the Test mode 2, press 0 twice, or switch the TV into stand-by mode.

00	Switch test mode 2 off
01	Picture maximum
02	Picture minimum
03	Volume 30%
04	Set service menu mode
05	Set production menu mode
06	Volume 80%
07	Set ageing condition
08	Set shipping condition
09	Language reset
10	No function
11	Adjustment without OSD
12	Dummy
13	Display TV configuration
14	Forced AV 6:9 mode
15	Reset LPM from ROM data
16	copy LPM to reset memory
17	Preset label for AV sources
18	RGB priority on/off
19	Clear all preset labels
20	No function
21	Sub contrast
22	Sub colour
23	Sub brightness
24	Set destination = U
25	Set destination = D
26	Set destination = B
27	Set destination = K
28	Set destination = L
29	Set destination = E
30	No function
31	Set destination = A
32	Dummy
33	Auto AGC
34	Dummy
35	Manual AGC adjust

36-40	Dummy
41	Re-initialise NVM
42	Production use only
43	Initialise geometry settings
44	Initialise all favourite pages = 100
45	Channel locks = off
46	Dealer commander mode
47	Default MSP settings
48	Restore NVM test byte
49	Delete NVM test byte
50-60	No function
61	Turn on Dolby Pro Logic mode
62	White noise to left speaker
63	White noise to right speaker
64	White noise to centre speaker
65	White noise to rear speaker
66	Set standard stereo mode
67	Set Pro Logic normal mode
68	Set Pro Logic wide mode
69	Set Pro Logic phantom mode
70	No function
71	Picture rotation on/off
72	Dolby register settings
74	No function
75	Reset picture colour balance
76	Reset picture geometry
77	Reset sound settings
78	Reset error codes in the NVM
79-99	No function

4-3. BE-3D SELF DIAGNOSTIC SOFTWARE

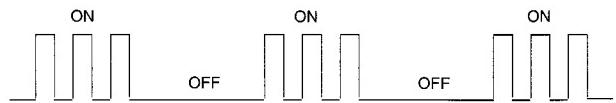
The identification of errors within the BE-3D chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the led (Series of flashes which must be counted) See Table 1, non fatal errors are reported with this method.

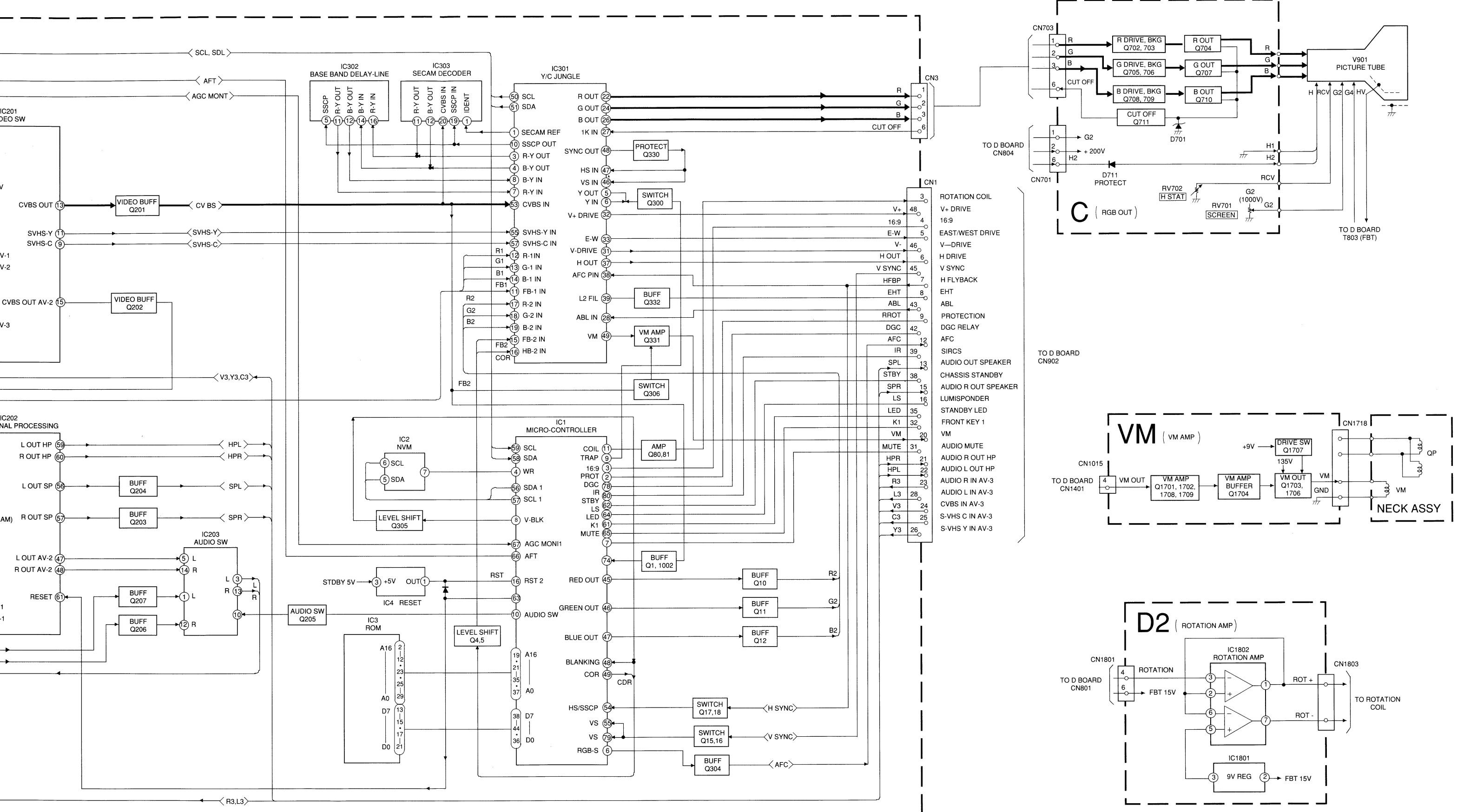
Table 1

ERROR	LED ERROR COUNT
Protection circuit trip < ANY TIME >	02
IIC SCL LOW < POWER UP ONLY >	03
IIC SDA LOW < POWER UP ONLY >	04
IIC SDA & SCL LOW < POWER UP ONLY >	05
Jungle/Chorama controller no acknowledge < POWER UP ONLY >	06
Video Switch no acknowledge < POWER UP ONLY >	07
Tuner no acknowledge	08
MSP no acknowledge	09
NVM no acknowledge	10
M3L TXD LOW < POWER UP ONLY >	11
M3L RXD LOW < POWER UP ONLY >	12
M3L ENABLE LOW < POWER UP ONLY >	13
M3L TXD & RXD LOW < POWER UP ONLY >	14
Compact Text test fail < POWER UP ONLY >	15
AV switch cannot power on reset	16
Cannot initialise jungle	17
NVM acknowledge fail after initialisation	18
Multiple devices with no acknowledge < POWER UP ONLY >	19
Compacttext run-time failure	20
AVSWITCH response failure after power up	21
JUNGLE/CHROMA controller response failure after power up	22
CompactText does not respond	23

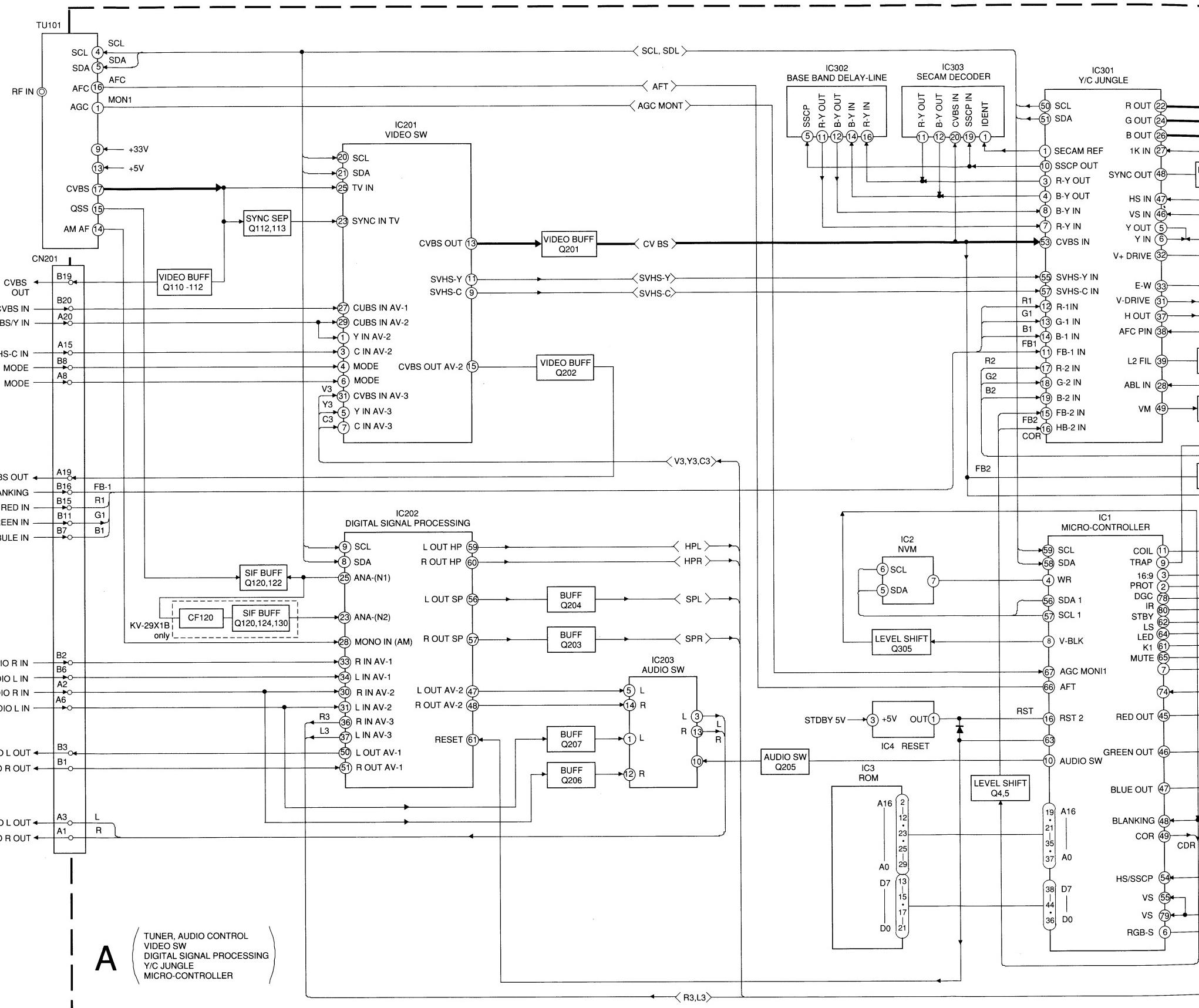
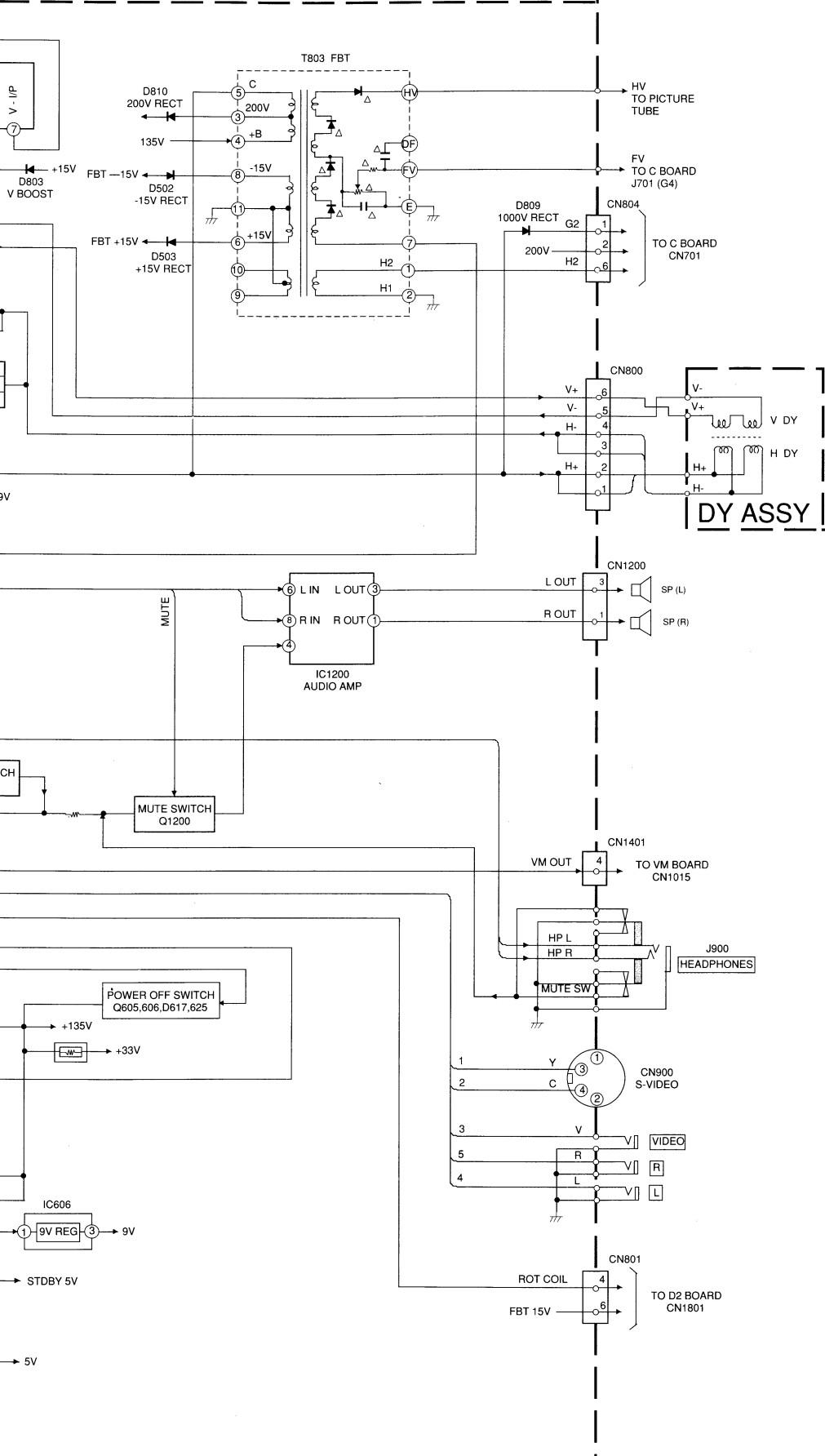
Flash Timing Example : e.g. error number 3.

Stby LED





BLOCK DIAGRAM (2)

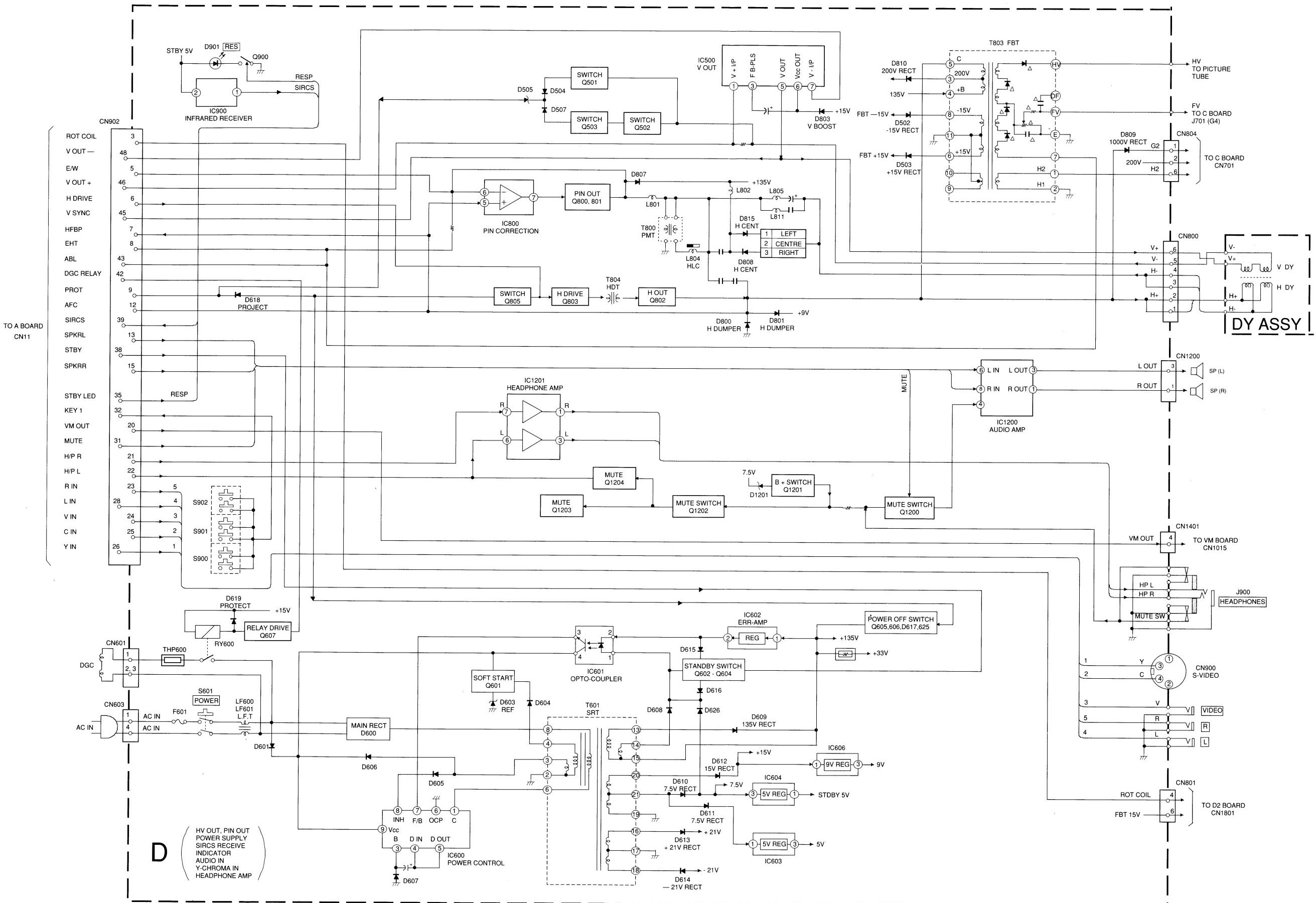


SECTION 5 DIAGRAMS

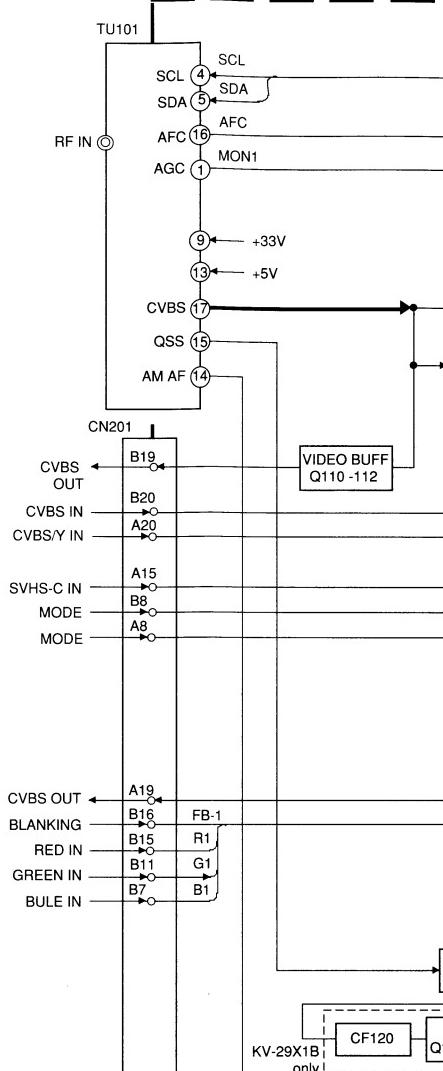
KV-29X1

KV-29X1

5-1. BLOCK DIAGRAM (1)

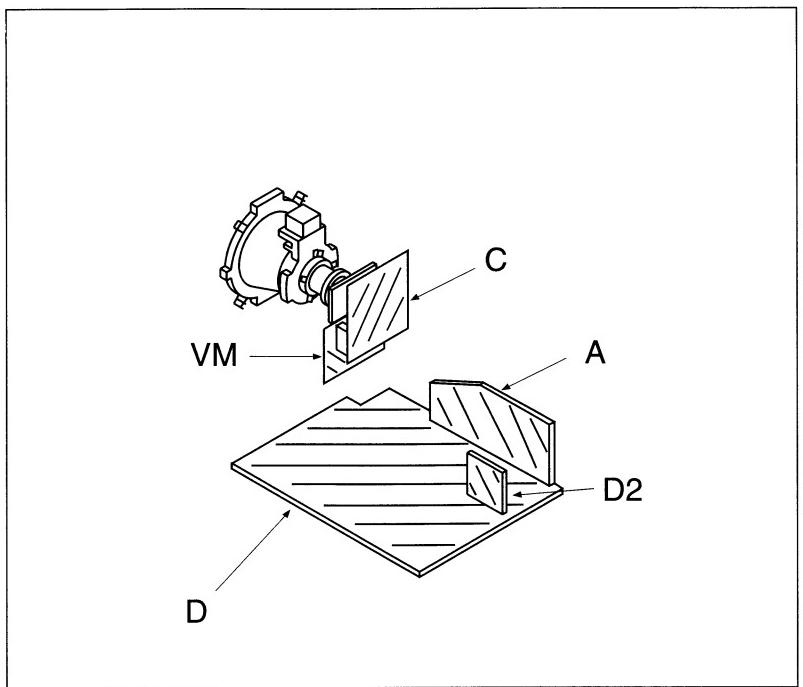


BLOCK DIAGRAM (2)



A (TUNER, AUDIO CONTROL VIDEO SW DIGITAL SIGNAL PROCESSOR Y/C JUNGLE MICRO-CONTROLLER)

5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$
50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
 $k = 1000$, $M = 1000\text{K}$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power $\frac{1}{4} \text{ W}$

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth - ground.
- : earth - chassis.
- : no mounted.

Note : The components identified by shading and marked are critical for safety. Replace only with the part number specified.

Note : Les composants identifiés par une trame et une marque sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

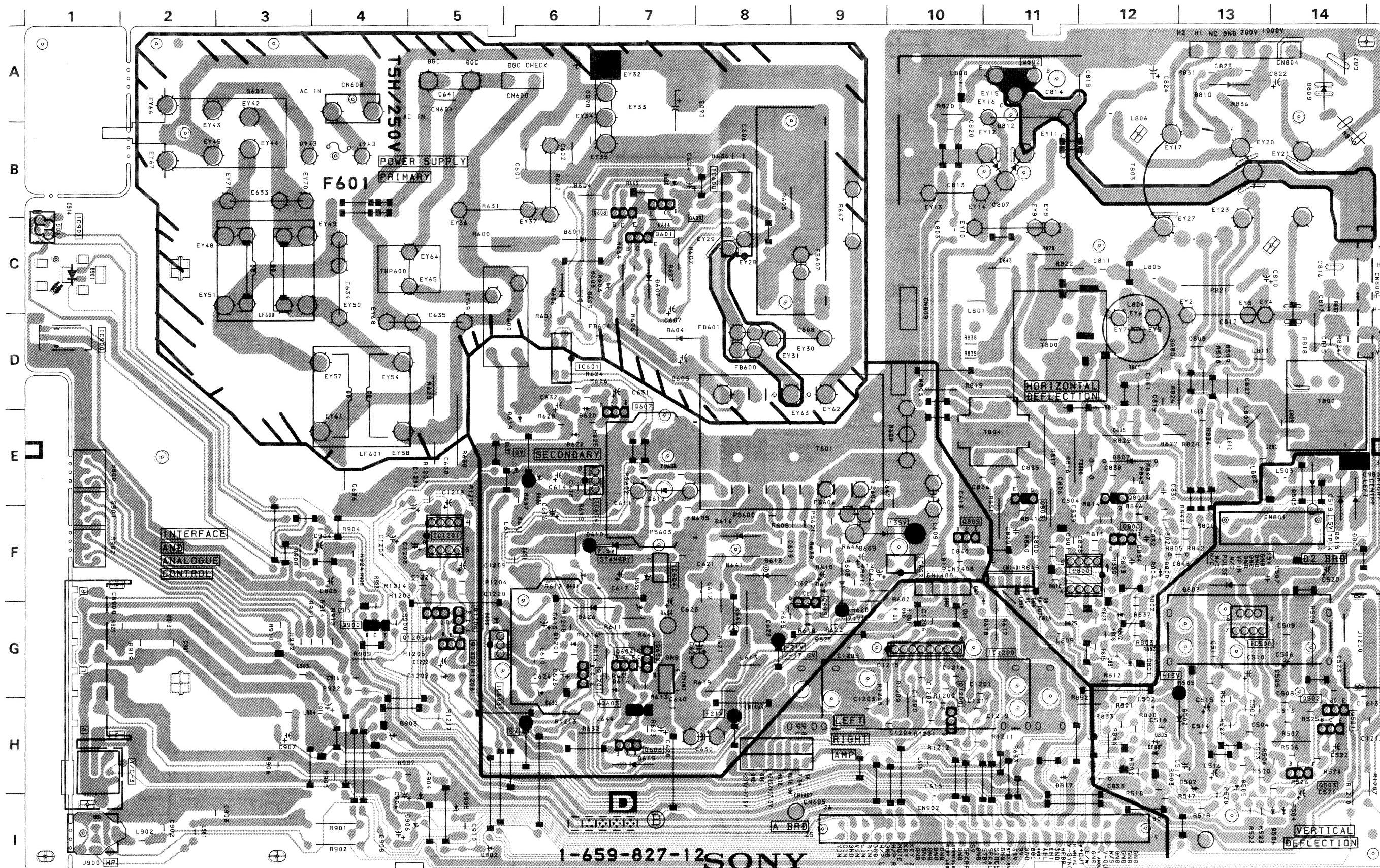
Reference information

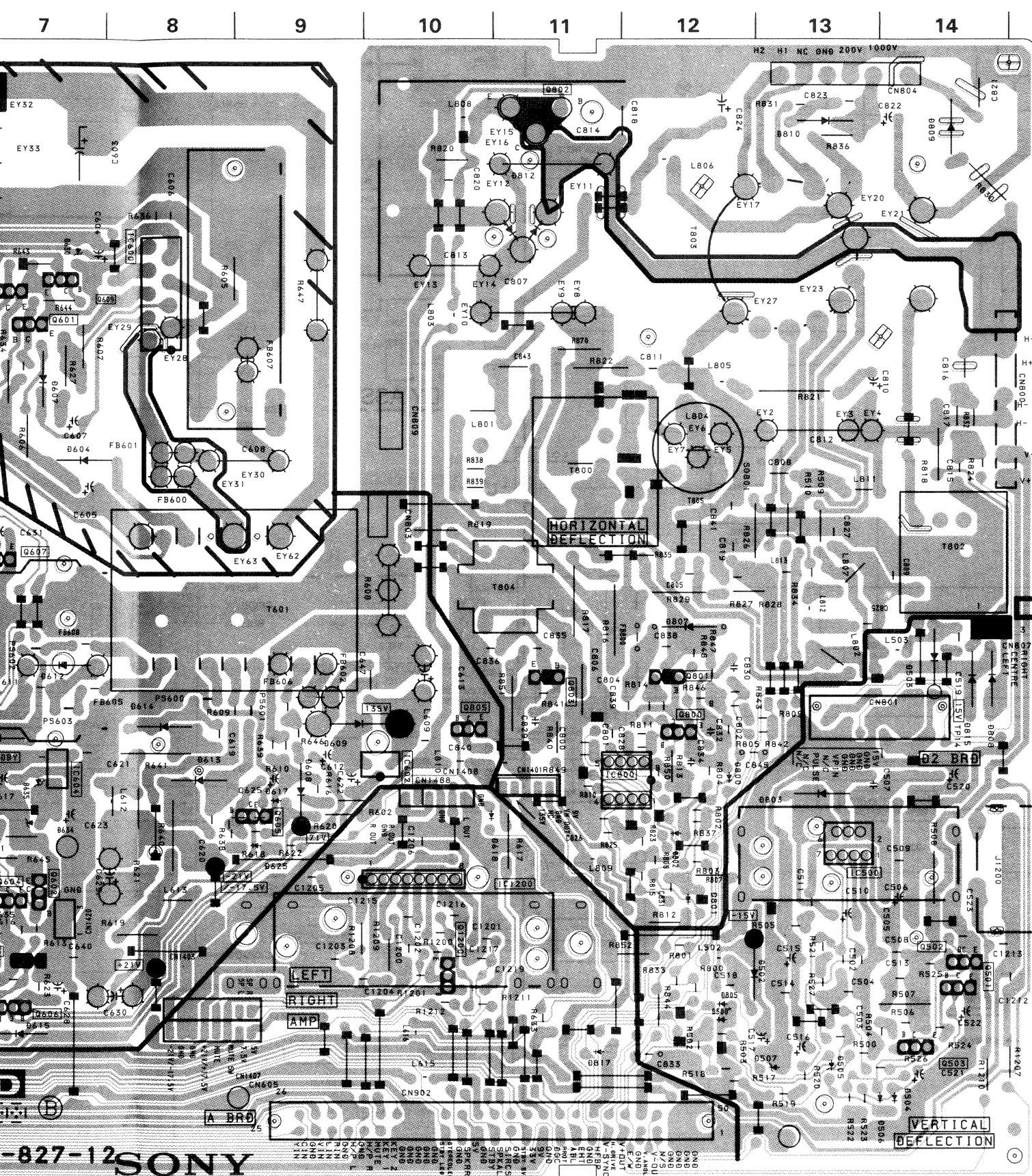
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: X	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input.
- Readings are taken with $10\text{M}\Omega$ digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

HV OUT, PIN OUT, POWER SUPPLY, CONTROL SW, AUDIO IN
Y-CHROMA IN, HEADPHONE IN, SIRCS RECEIVE, INDICAITON

D Board





-827-12 SONY

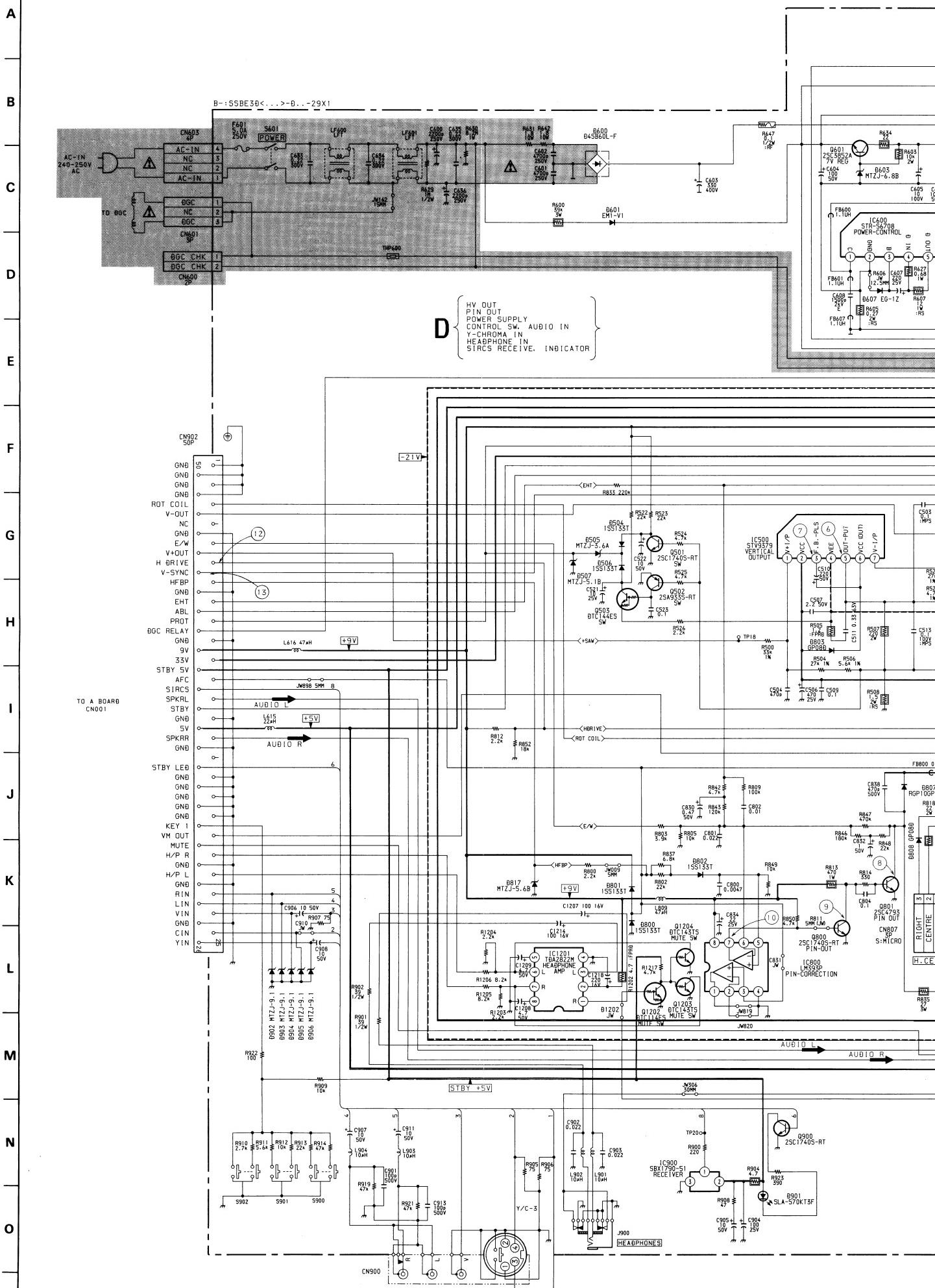
NOTE:

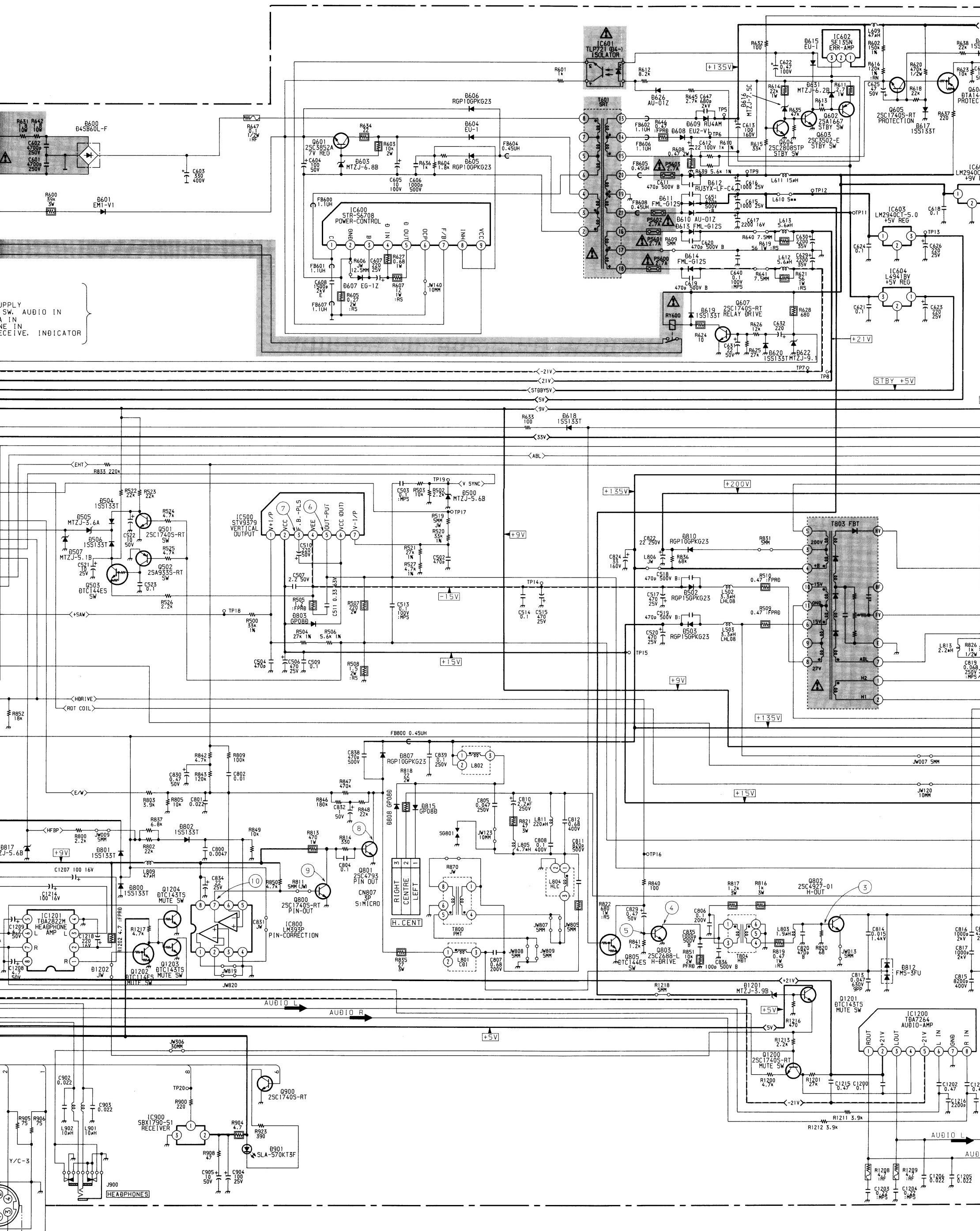
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

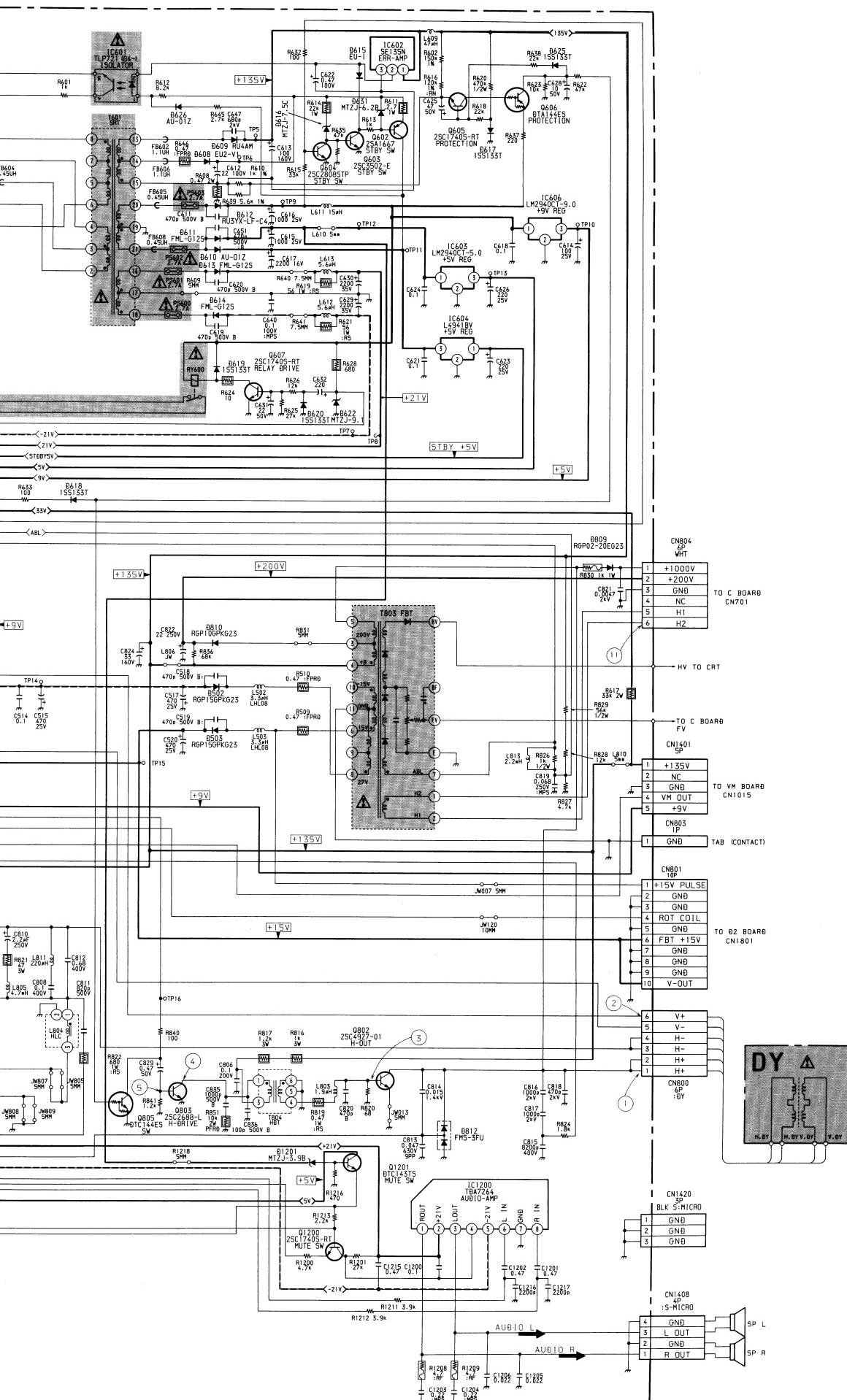
D BOARD

IC	DIODE
IC500	G-13
IC600	B-8
IC601	D-6
IC602	F-10
IC603	G-5
IC604	F-7
IC606	E-6
IC800	F-12
IC900	D-1
IC1200	G-10
IC1201	F-5
	D600 A-7
	D601 C-6
	D603 C-7
	D604 D-7
	D605 C-6
	D606 C-6
	D607 C-7
	D608 F-9
	D609 F-9
	D610 F-7
	D611 F-6
	D612 E-7
	D613 F-8
Q501	H-14
Q502	H-14
Q503	H-14
Q601	C-7
Q602	G-7
Q603	H-7
Q604	G-7
Q605	F-9
Q606	H-7
Q607	D-7
Q800	F-12
Q801	E-12
Q802	A-11
Q803	E-11
Q805	F-10
Q900	G-4
Q1200	H-10
Q1201	G-6
Q1202	G-5
Q1203	G-5
Q1204	G-5
	D614 F-8
	D615 H-7
	D616 G-7
	D617 F-9
	D618 F-11
	D619 E-6
	D620 E-6
	D622 E-6
	D625 G-9
	D626 G-6
	D631 F-6
	D800 F-12
	D801 G-12
	D802 G-12
	D803 F-13
	D807 E-12
	D808 E-14
	D809 A-14
	D810 A-13
	D812 B-11
	D815 E-14
	D817 H-11
D500	H-12
D502	H-13
D503	I-14
D504	H-11
D505	H-13
D506	I-14
D507	H-13
	D901 C-1
	D902 I-5
	D903 H-4
	D904 H-5
	D905 I-5
	D906 I-5
	D1201 G-6

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11







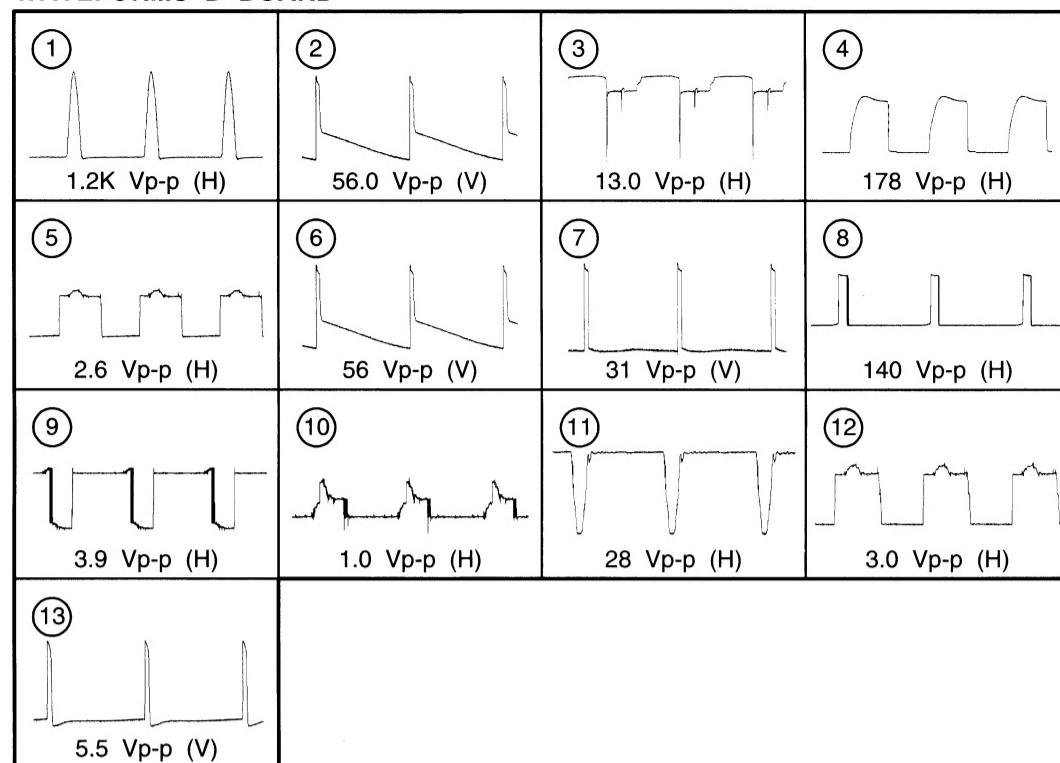
**D BOARD
TRANSISTOR VOLTAGE TABLE**

Transistor Voltage Table			
Ref No	B Base	C Collector	E Emitter
Q501	-0.1	0.2	-
Q502	0.1	-5.8	-
Q503	-5.8	-12.0	-12.0
Q602	72.0	7.5	72.7
Q603	0	72.0	-
Q604	0.7	-	-
Q605	0.5	-	0.3
Q606	-	-	12.0
Q607	-	12.0	-
Q800	0.2	3.1	-
Q801	0.3	17.0	-
Q802	-0.2	143.3	-
Q803	-0.6	99.8	-
Q805	-	3.6	-
Q900	-	5.4	-
Q1200	2.9	21.5	4.6
Q1201	3.4	5.0	3.0
Q1202	2.8	-	-

D BOARD IC VOLTAGE TABLE

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC500	1	1.5
	2	15.0
	3	-12.3
	4	-14.0
	5	0.1
	6	15.2
	7	1.4
IC600	1	170.0
	2	-62.4
	3	-62.6
	4	-62.2
	5	-62.0
	6	-62.6
	7	-62.4
	8	-62.0
	9	-58.0
IC601	1	64.3
	2	63.0
	3	-62.5
	4	-58.6
IC602	1	135.0
	2	63.2
	3	-0.1
IC800	3	0.9
	5	1.5
	6	2.0
	7	0.2
	8	9.0
IC1200	2	21.7
	4	21.5
	5	-21.7
IC1201	1	4.0
	2	9.0
	3	4.0
	5	0.5
	8	0.5

WAVEFORMS D BOARD



**D BOARD
TRANSISTOR VOLTAGE TABLE**

Transistor Voltage Table			
Ref No	B Base	C Collector	E Emitter
Q501	-0.1	0.2	-
Q502	0.1	-5.8	-
Q503	-5.8	-12.0	-12.0
Q602	72.0	7.5	72.7
Q603	0	72.0	-
Q604	0.7	-	-
Q605	0.5	-	0.3
Q606	-	-	12.0
Q607	-	12.0	-
Q800	0.2	3.1	-
Q801	0.3	17.0	-
Q802	-0.2	143.3	-
Q803	-0.6	99.8	-
Q805	-	3.6	-
Q900	-	5.4	-
Q1200	2.9	21.5	4.6
Q1201	3.4	5.0	3.0
Q1202	2.8	-	-

D BOARD IC VOLTAGE TABLE

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC500	1	1.5
	2	15.0
	3	-12.3
	4	-14.0
	5	0.1
	6	15.2
	7	1.4
IC600	1	170.0
	2	-62.4
	3	-62.6
	4	-62.2
	5	-62.0
	6	-62.6
	7	-62.4
	8	-62.0
	9	-58.0
IC601	1	64.3
	2	63.0
	3	-62.5
	4	-58.6
IC602	1	135.0
	2	63.2
	3	-0.1
IC800	3	0.9
	5	1.5
	6	2.0
	7	0.2
	8	9.0
IC1200	2	21.7
	4	21.5
	5	-21.7
IC1201	1	4.0
	2	9.0
	3	4.0
	5	0.5
	8	0.5

1 2 3 4 5 6 7 8 9 10 11

A

B

C

D

E

F

G

H

I

J

K

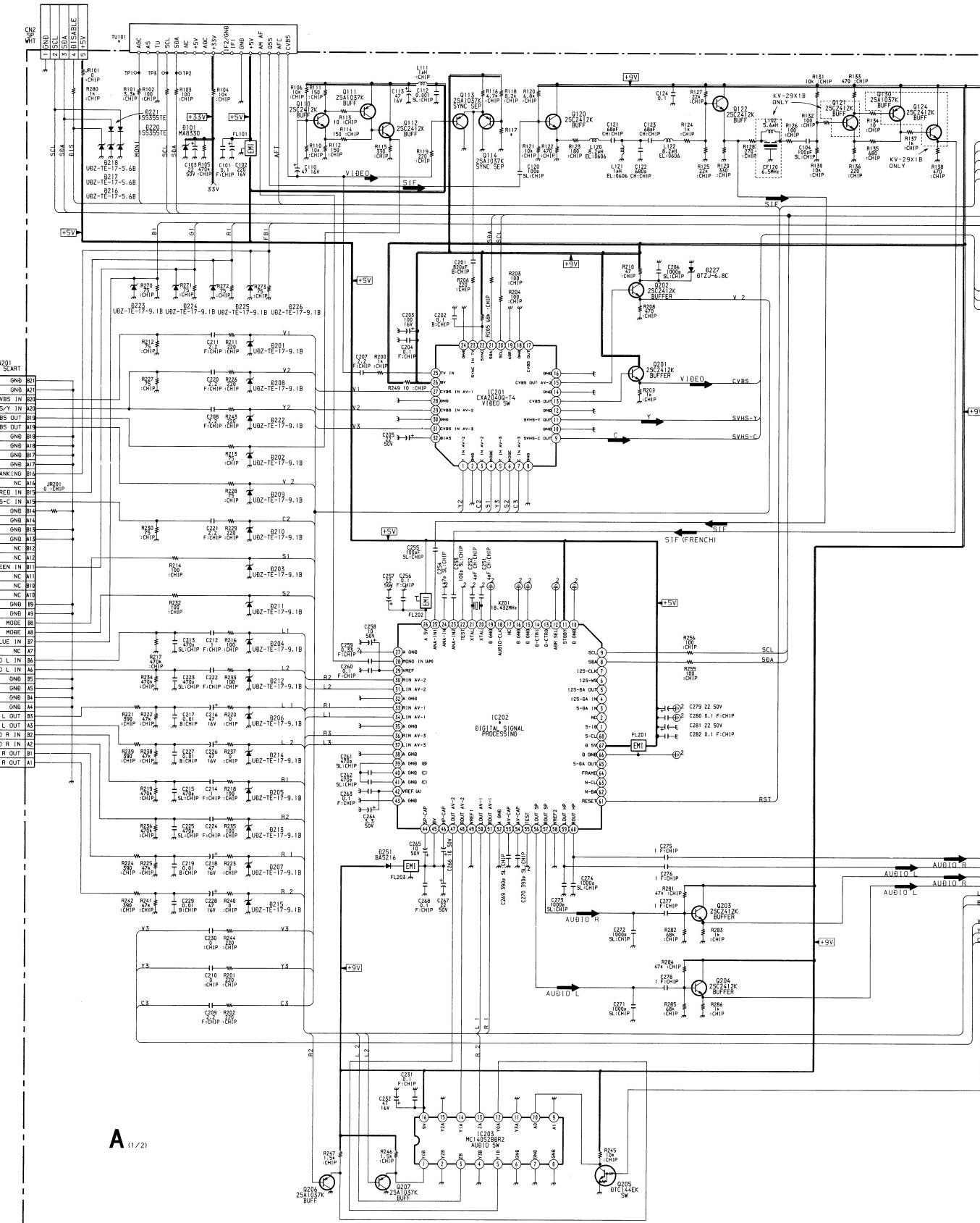
L

M

N

O

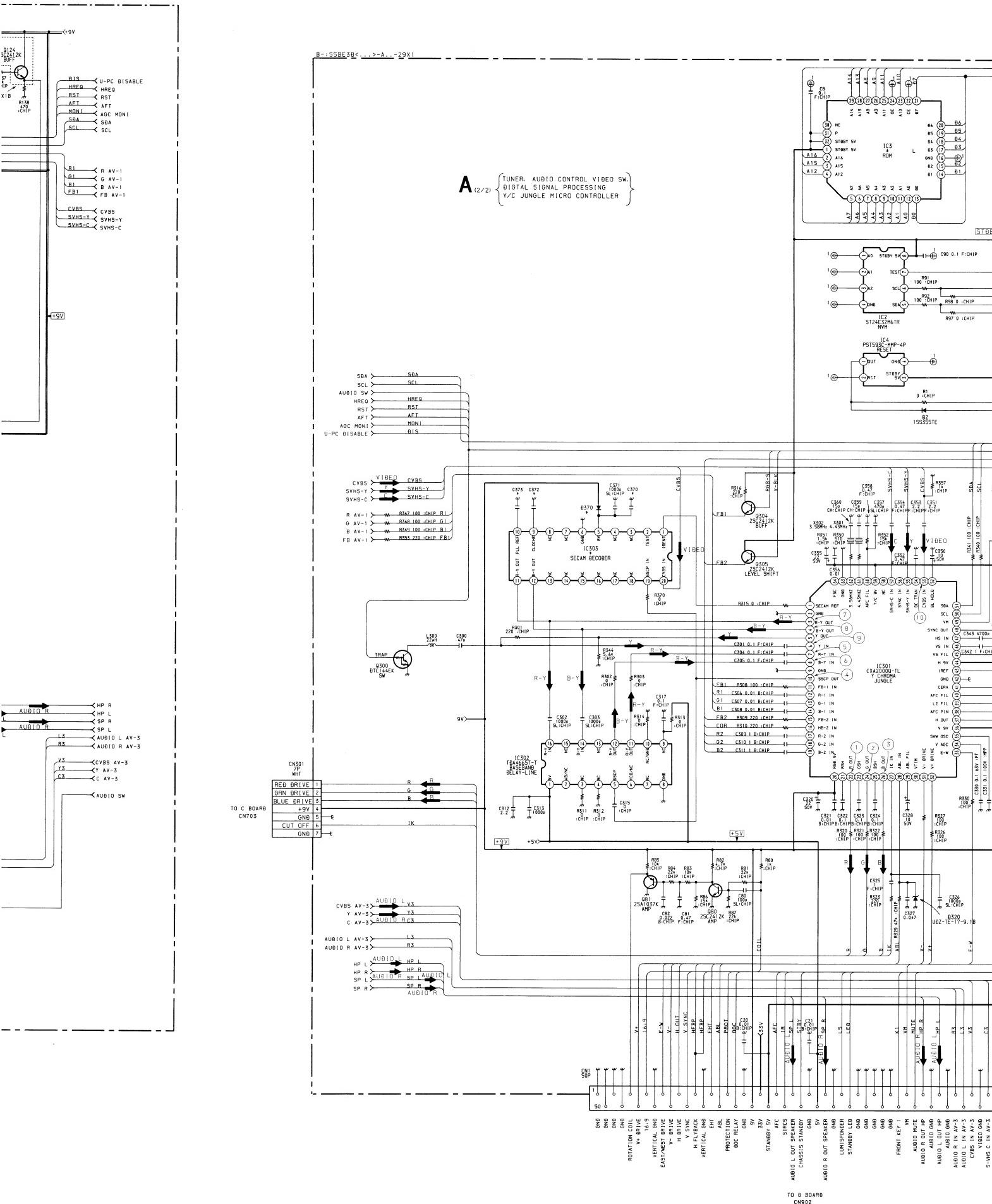
P

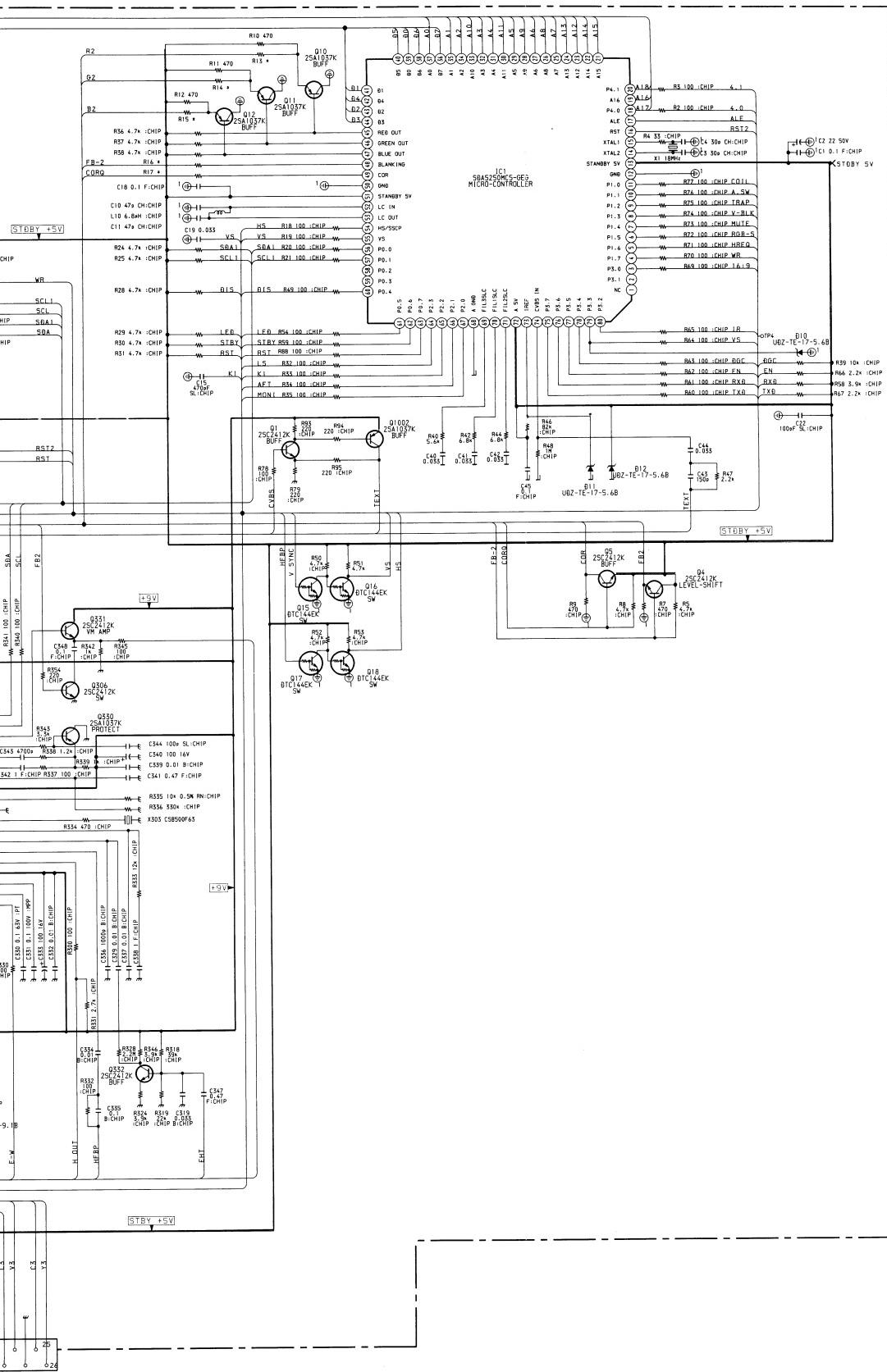


B-:SSBE30<...>-A--29X1

A BOARD * MARK

Model Ref. No.	29X1A	29X1B	29X1D	29X1E	29X1K	29X1L	29X1R	29X1U
C370	—	2.2UF	2.2UF	2.2UF	2.2UF	—	2.2UF	—
C372	—	0.1UF	0.1UF	0.1UF	0.1UF	—	0.1UF	—
C373	—	0.22UF	0.22UF	0.22UF	0.22UF	—	0.22UF	—
D370	—	BAS216	BAS216	BAS216	BAS216	—	BAS216	—
IC3	TMS27PC010A-15FMBE101	TMS27PC010A-15FMBE101	TMS27PC010A-15FMBE101	TMS27PC010A-15FMBW101	TMS27PC010A-15FMBE101	TMS27PC010A-15FMBW101	TMS27PC010A-15FMBE101	TMS27PC010A-15FMBW101
IC202	MSP3400C-PS	MSP3410-15	MSP3400C-PS	MSP3410-15	MSP3400C-PS	MSP3410-15	MSP3400C-PS	MSP3410-15
IC303	—	TDA8395T	TDA8395T	TDA8395T	TDA8395T	—	TDA8395T	—
R13	150	—	150	150	150	150	150	150
R14	150	—	150	150	150	150	150	150
R15	150	—	150	150	150	150	150	150
R16	100	—	100	100	100	100	100	100
R17	100	—	100	100	100	100	100	100
R117	1.8K	2.0K						
TU101	TUVIF (AEP)	TUVIF (FR)	TUVIF (AEP)	TUVIF (UK)				





A (1/2) BOARD IC VOLTAGE TABLE

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC201	13	4.4
	15	4.4
	20	3.5
	21	2.7
	22	4.9
	23	4.4
	24	0
	25	4.4
	26	8.8
IC202	32	4.4
	4	2.8
	6-7	0.1
	8	3.0
	9	3.6
	11	4.7
	13	4.7
	20-21	2.4
	23	0.2
	25	1.5
	26	4.8
	28	3.8
	29	2.6
	39-42	3.8
	44	7.1
	45	8.0
	46	7.1
	47-48	3.8
	53-54	3.8

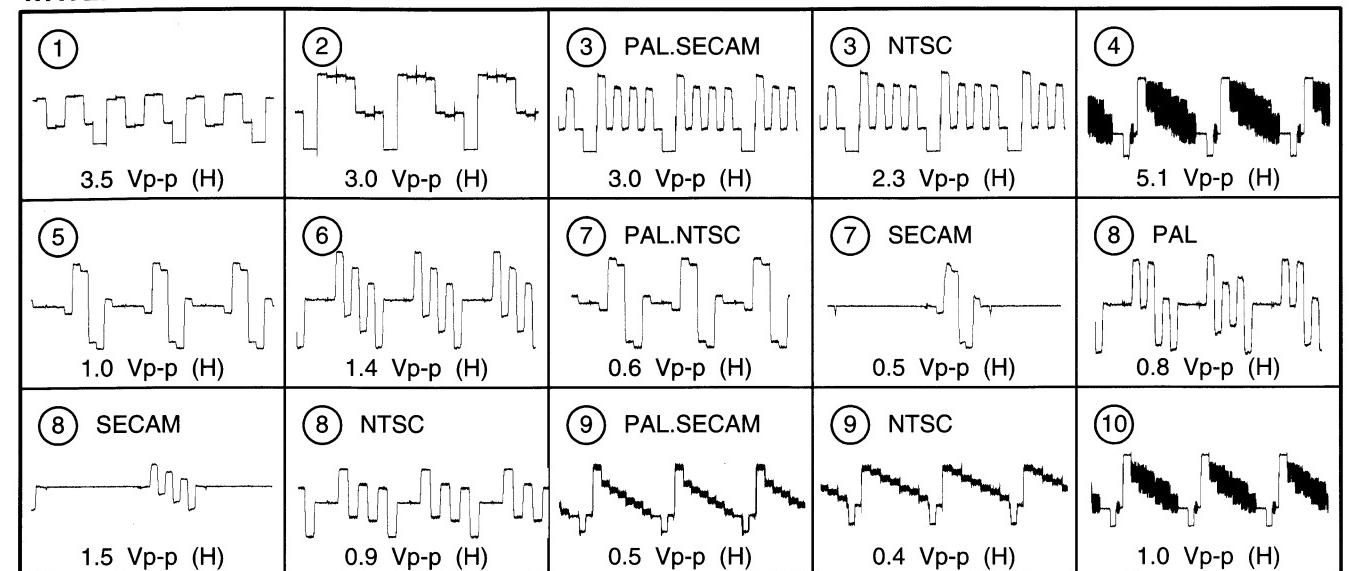
TRANSISTOR VOLTAGE TABLE

Ref No	B Base	C Collector	E Emitter
Q1	3.7	4.8	3.1
Q4	0.1	4.8	-
Q5	0.7	4.8	4.0
Q15	-	4.3	-
Q16	4.3	0.2	-
Q17	0.4	3.5	-
Q18	3.5	0.7	-
Q80	2.6	2.2	-
Q81	2.4	-	3.0
Q304	-	4.8	-
Q305	-	4.8	-
Q330	4.5	-	5.1
Q331	6.3	8.8	5.7
Q332	3.1	8.8	2.5
Q1001	4.4	-	-

TRANSISTOR VOLTAGE TABLE

Ref No	B Base	C Collector	E Emitter
Q110	1.8	8.2	1.2
Q112	1.5	8.8	0.8
Q113	1.8	-	-
Q114	5.4	6.0	-
Q120	84.3	8.8	3.7
Q121	1.5	5.4	0.9
Q122	5.4	8.8	4.7
Q124	-	8.8	-
Q201	4.4	8.8	3.7
Q202	4.4	8.8	3.7

WAVEFORMS A BOARD

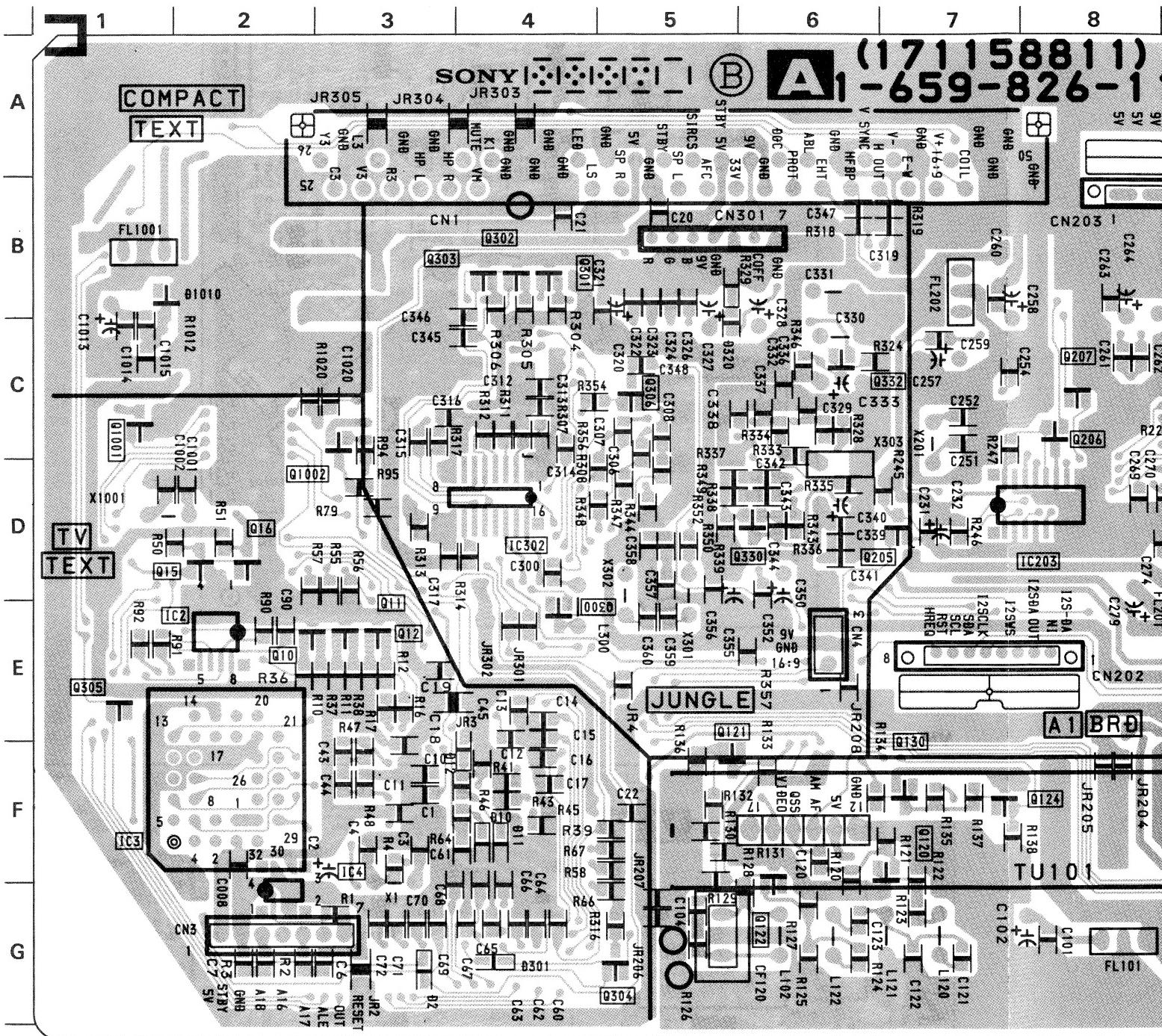


A (2/2) BOARD IC VOLTAGE TABLE

IC Voltage Table					
Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
IC1	2	3.6	IC301	5	3.6
	3-4	4.8		6	5.0
	5	0.5		7-8	5.4
	7	4.8		10	0.6
	9	4.8		12-14	5.4
	11	2.4		16	4.0
	13	4.8		17-19	5.4
	14-15	2.3		20	8.8
	16-17	4.8		22-23	2.2
	48	4.0		24	2.0
	51	4.8		25	2.4
	52-53	2.4		26	2.0
	54	0.7		27	4.0
	55	0.2		28	6.6
	56-57	4.8		29	8.8
	58	2.8		31-33	3.0
	59	3.5		34	4.0
	60	2.4		35	4.6
	62	0.7	IC301	36	8.8
	63	4.4		37	3.1
	65	4.8		38	3.4
	66	2.1		39	5.3
	67	2.0		40	4.2
	69-71	2.3		41	2.3
	72	4.8		43	1.7
	73	1.5		44	8.8
	74	1.2		45	2.5
	75-77	4.8		46	3.9
	79	0.2		47	3.0
	80	4.8		48	4.4
IC2	5-8	4.8		49	6.3
IC3	1	4.8		50-51	0.1
	31-32	4.8		53	3.9
IC4	1	4.8		54	5.0
	3	4.8		55-56	4.2
IC301	1	1.5		58-59	8.8
	3-4	5.6		60	5.3
IC302	61	5.0	IC303	62	7.6
	1	4.8		1	4.8
	5	0.7		5	0.7
	9	4.8		9	4.8
	11-12	3.0		14	1.3
	16	1.3		16	1.3
	5	8.0		5	8.0
	3.2	10		3.2	10
	11	5.6		11	5.6
	0	19		0	19
IC1001	20	3.7		20	3.7
	4	0.2		4	0.2
	5	0.7		5	0.7
	6	1.7		6	1.7
	7	1.8		7	1.8
	10	0.4		10	0.4
	11-12	4.8		11-12	4.8
	16	4.8		16	4.8
	17	0		17	0
	21	4.8		21	4.8
IC6301	23	3.0		23	3.0
	25	4.8		25	4.8
	56	0		56	0
	61	1.3		61	1.3
	62-63	1.4		62-63	1.4
	64	0		64	0
	66	4.6		66	4.6
	67	4.7		67	4.7
IC6302	68	4.0		68	4.0

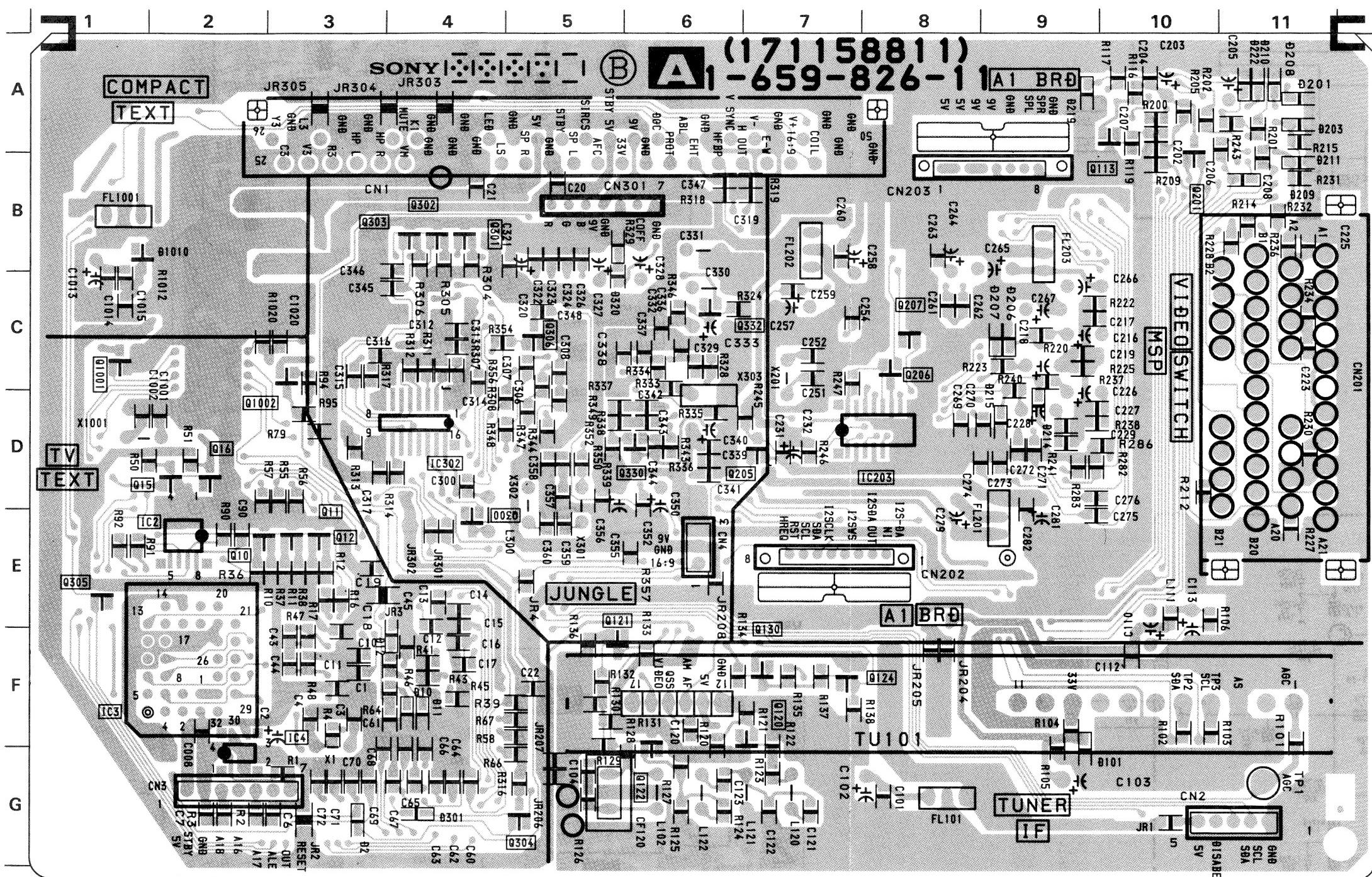
A TUNER, AUDIO CONTROL VIDEO SW, DIGITAL SIGNAL PROCESSING
Y/C JUNGLE MICRO CONTROLLER

A Board <Conductor Side>

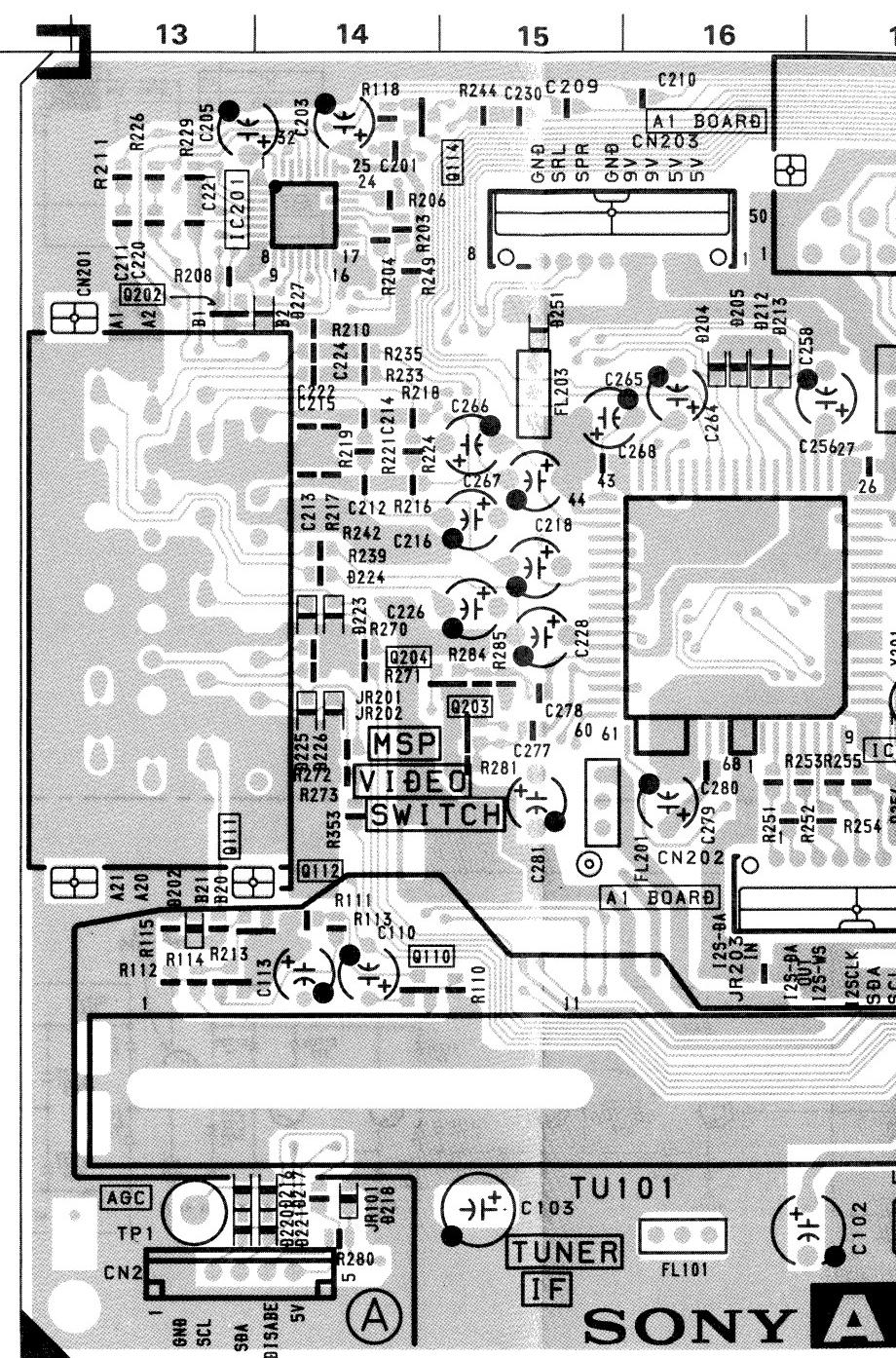


A TUNER, AUDIO CONTROL VIDEO SW, DIGITAL SIGNAL PROCESSING
Y/C JUNGLE MICRO CONTROLLER

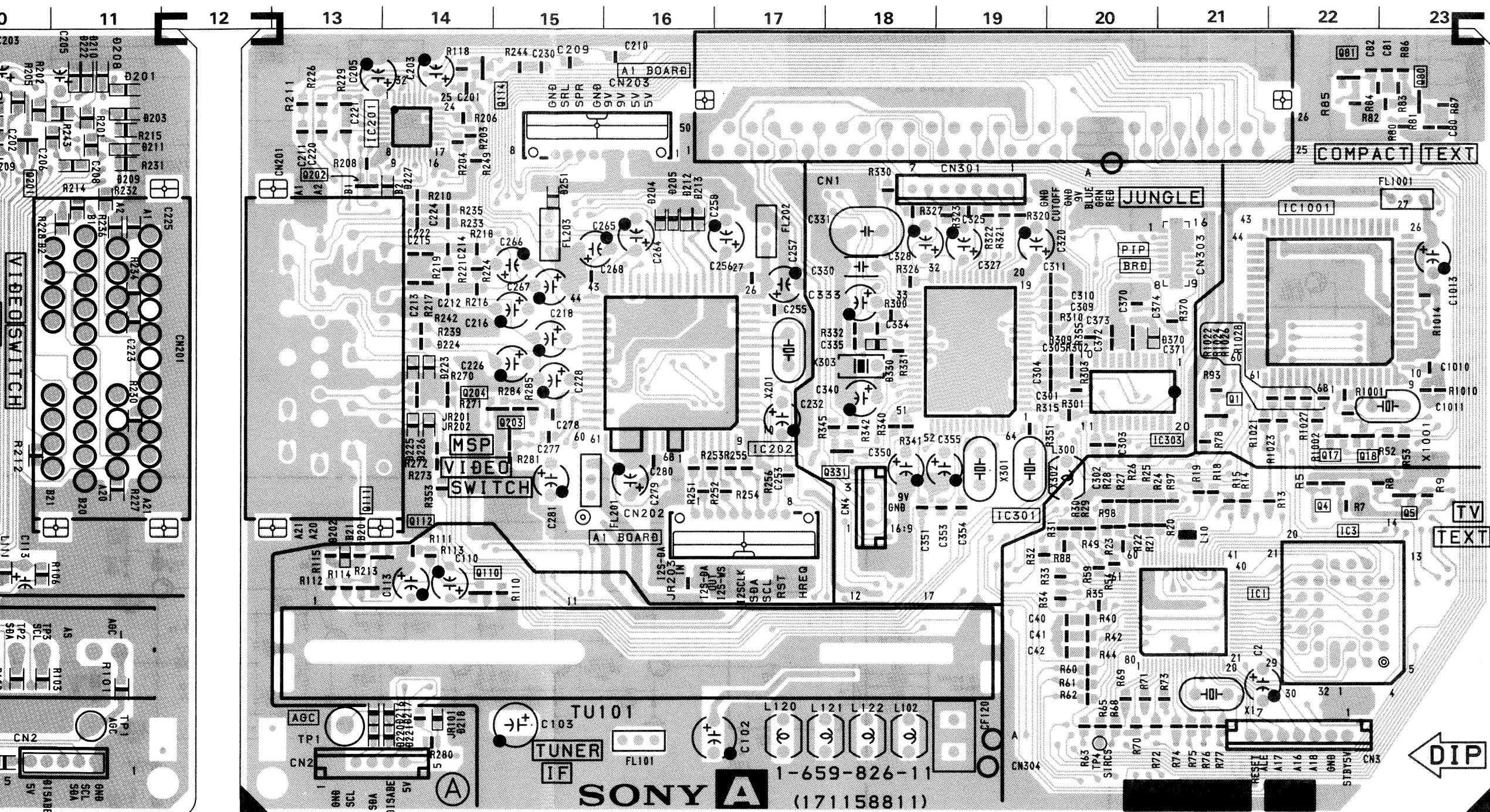
A Board <Conductor Side>



A Board <Component Side>

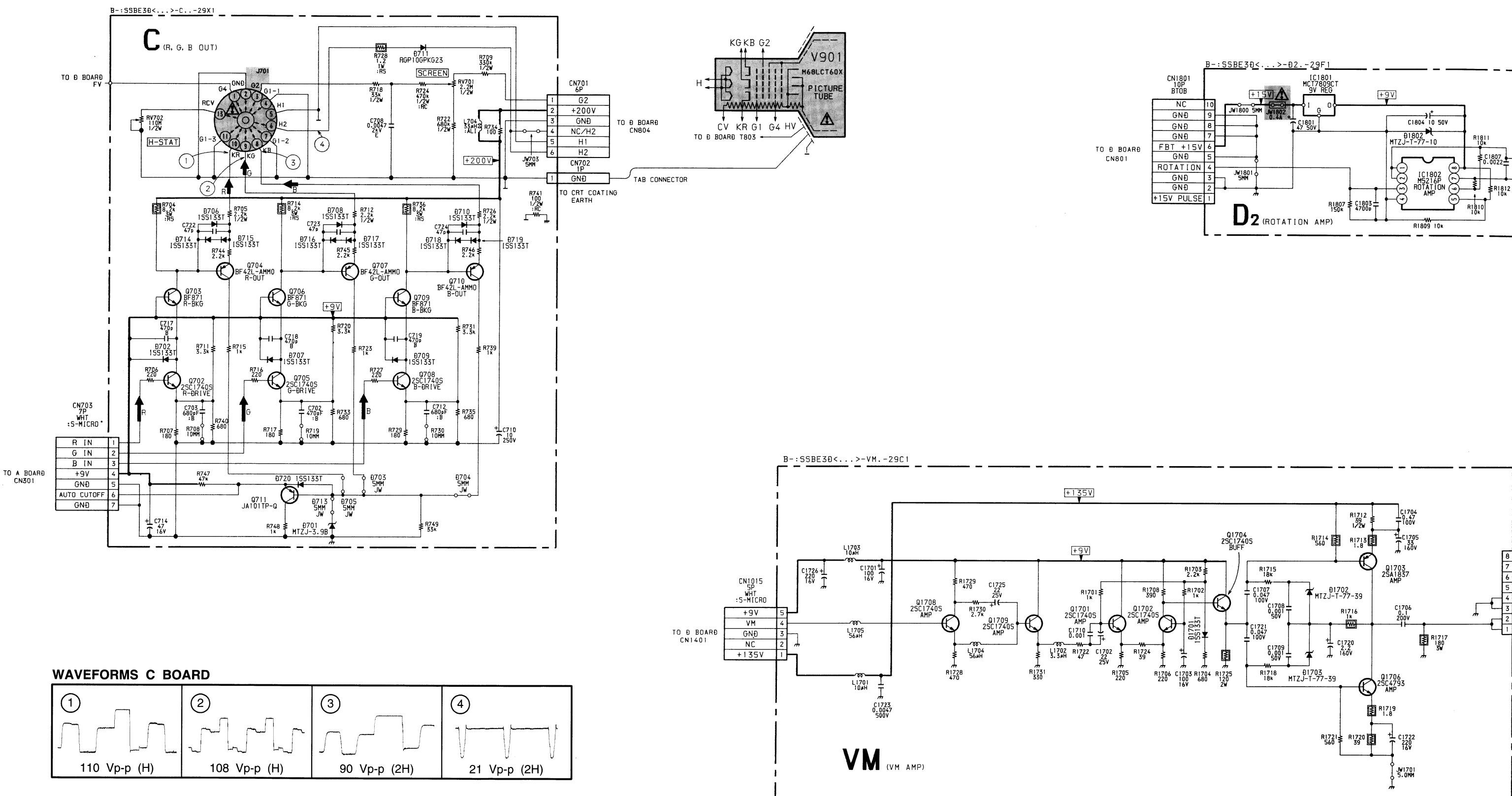


A Board <Component Side>



A BOARD

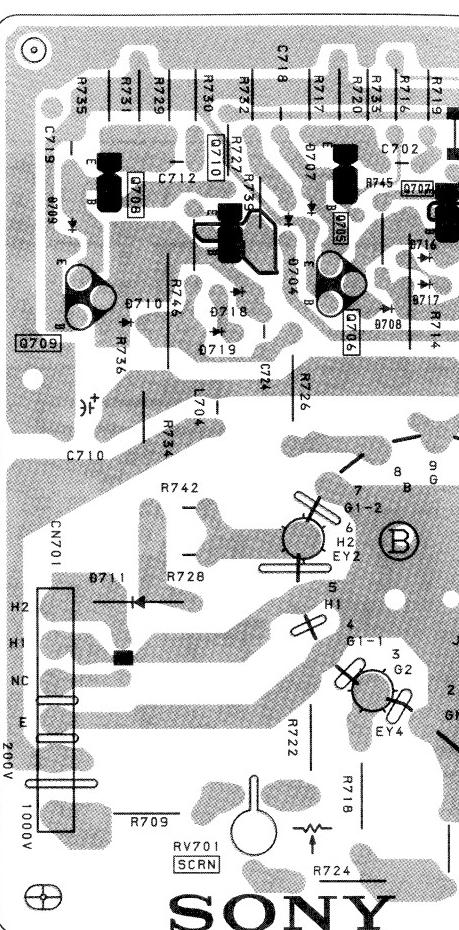
IC	
Q305	E-1
Q306	C-5
Q330	D-6
Q331	D-18
Q332	C-6
Q1002	C-3
IC201	A-14
IC202	C-16
IC203	D-8
IC301	C-19
IC302	D-4
IC303	D-21
DIODE	
D2	G-3
D10	F-10
D11	F-10
D12	F-4
D101	F-9
TRANSISTOR	
Q1	D-21
Q4	E-22
Q5	E-23
Q10	E-2
Q11	E-3
Q15	D-2
Q16	D-2
Q17	D-22
Q18	D-23
Q209	B-11
Q80	A-23
Q81	A-22
Q110	F-14
Q111	E-14
Q112	E-14
Q113	A-10
Q114	A-14
Q120	F-7
Q121	F-5
Q122	F-6
Q124	F-7
Q130	F-7
Q201	B-10
Q202	B-13
Q203	D-15
Q204	D-15
Q205	D-7
Q206	C-8
Q207	C-8
Q300	E-4
Q304	G-5



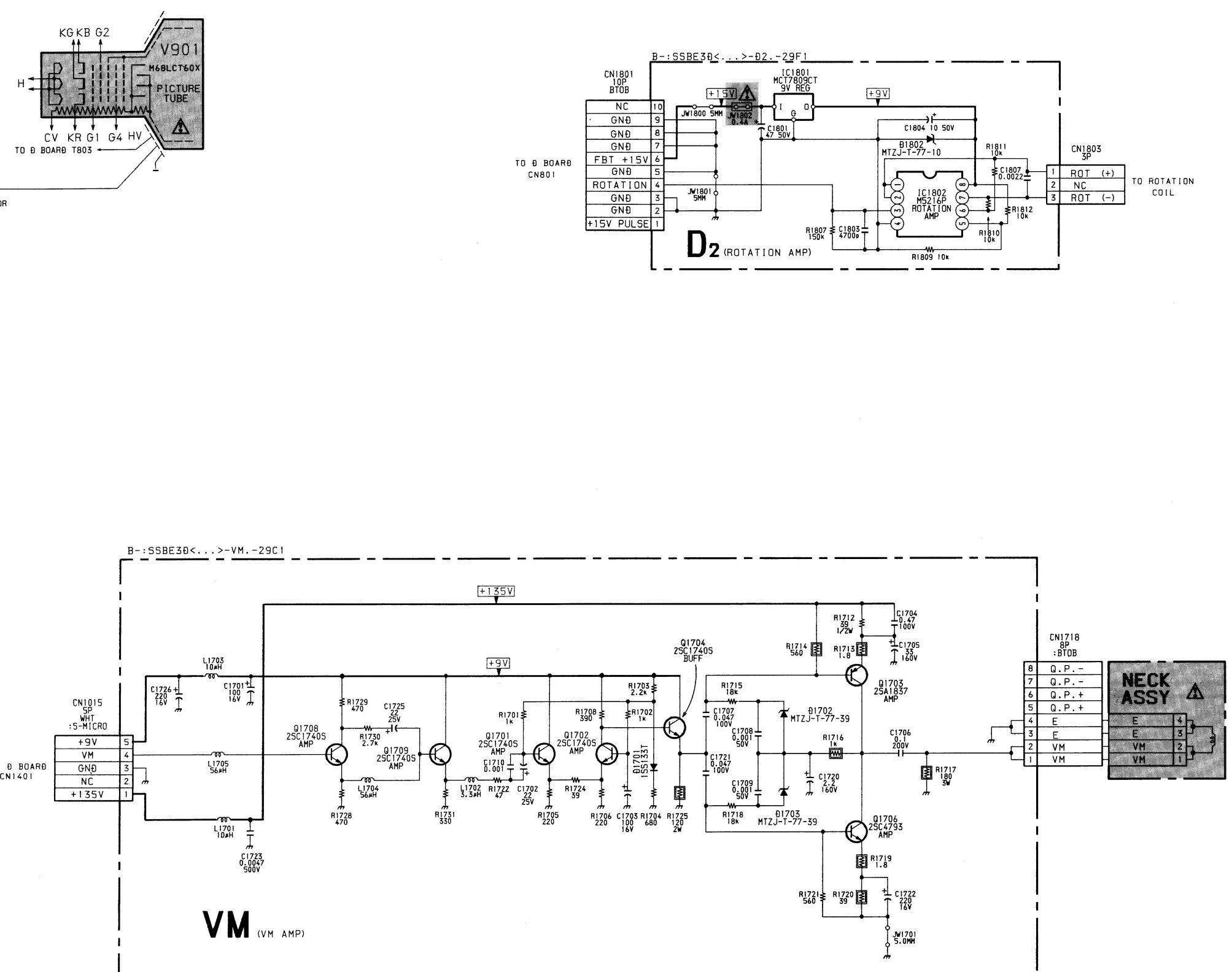
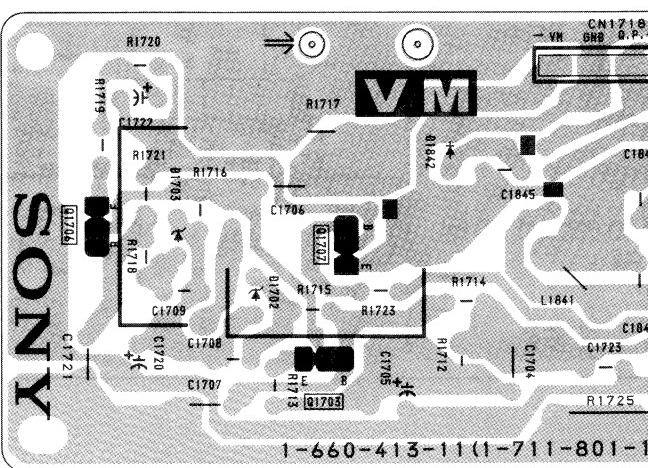
C

VM

C Board



VM Board



KV-29X1

KV-29X1

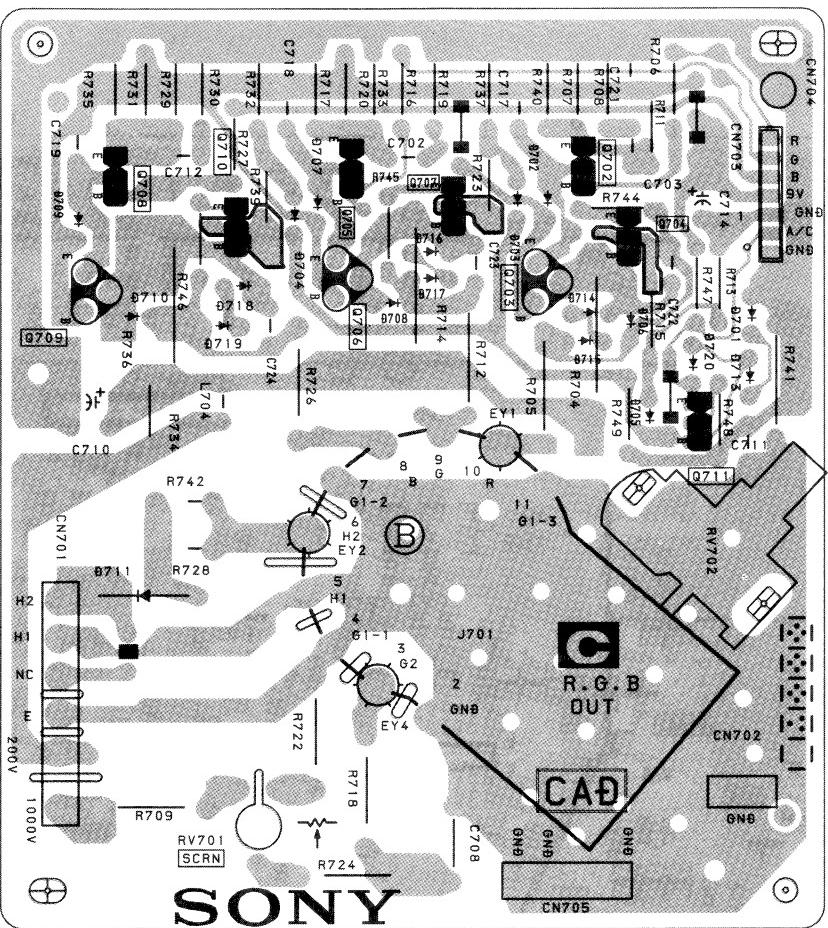
C

[R, G, B OUT]

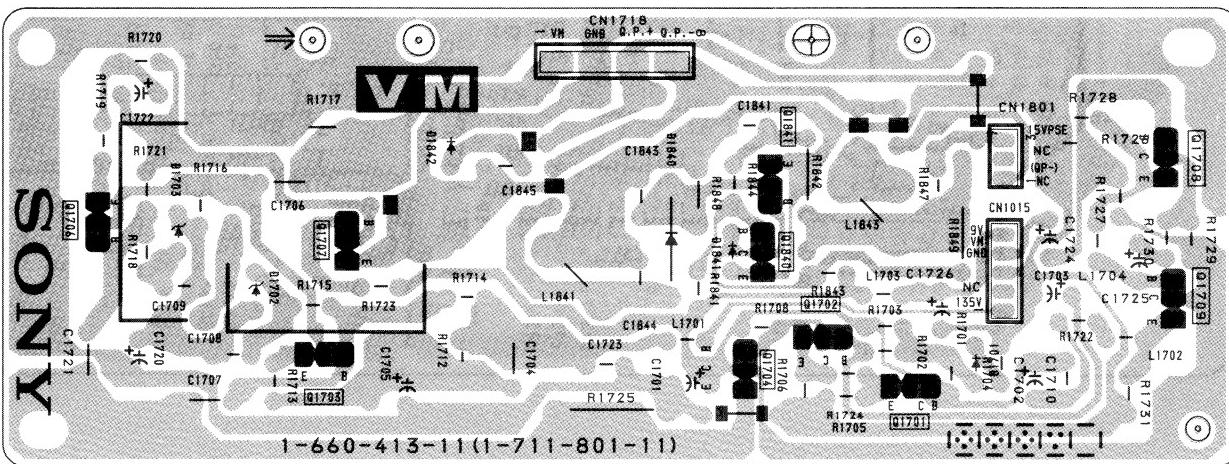
VM

[VM AMP]

C Board



VM Board

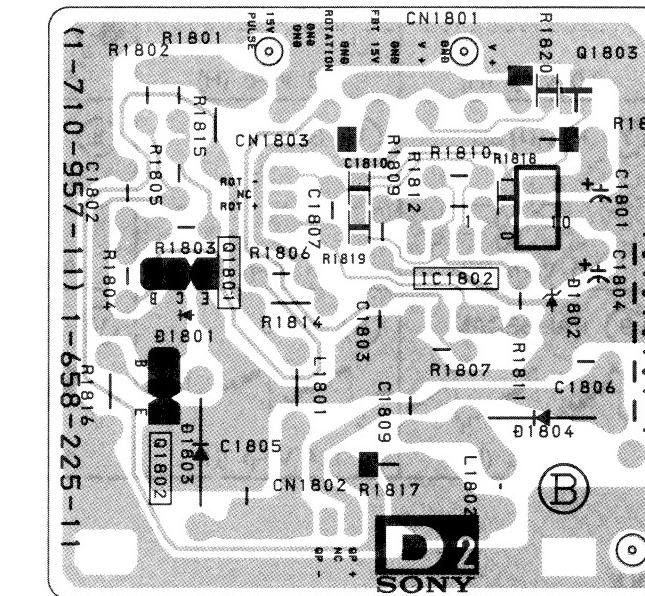


— 61 —

D2 Board

D

ROTATION AMP



C BOARD TRANSISTOR VOLTAGE TABLE

Transistor Voltage Table			
Ref No	B Base	C Collector	E Emitter
Q702	2.0	11.4	1.4
Q703	12.0	168.3	11.4
Q704	168.3	6.0	163.5
Q705	1.7	11.4	1.2
Q706	12.0	178.8	11.4
Q707	178.2	6.2	173.8
Q708	2.0	11.4	1.4
Q709	12.0	168.3	11.4
Q710	168.0	6.4	160.0

VM BOARD TRANSISTOR VOLTAGE TABLE

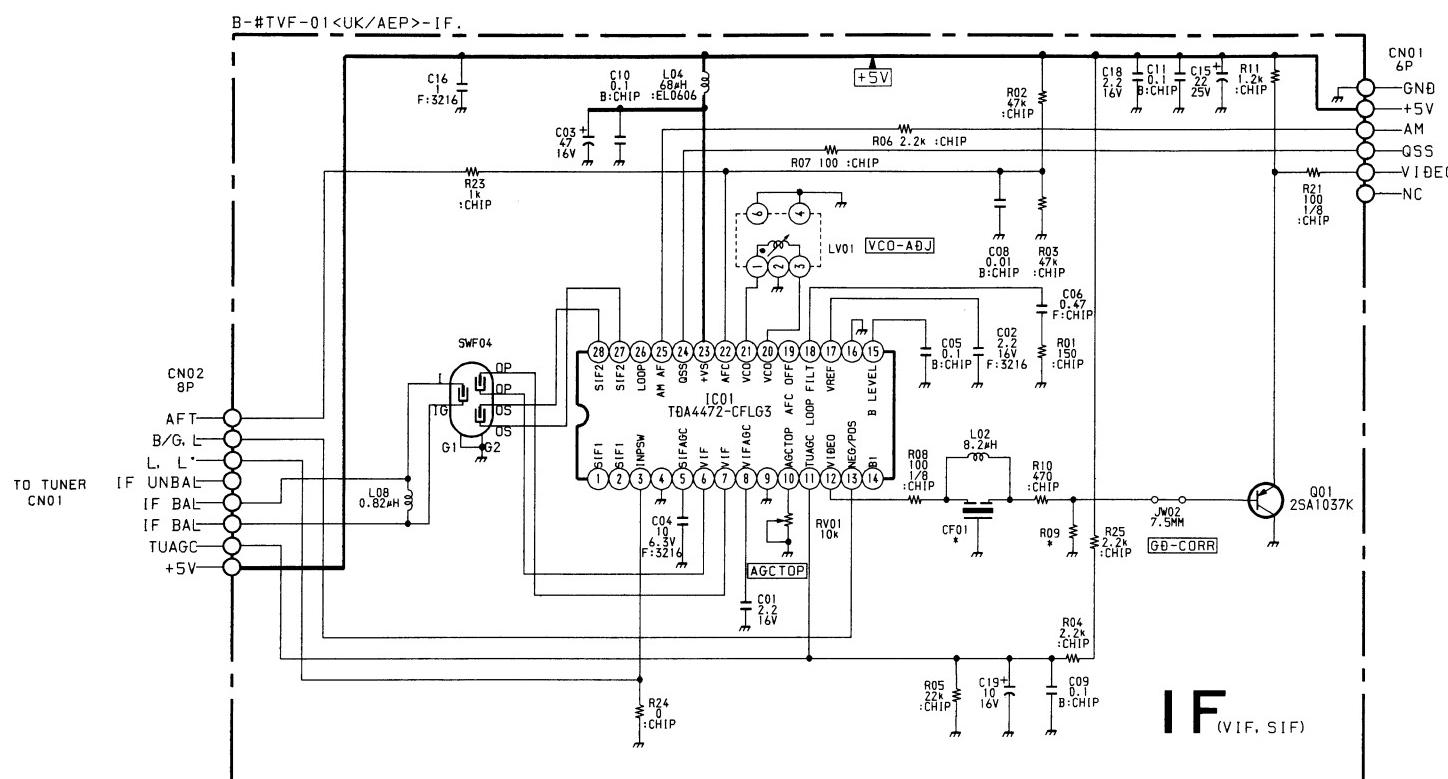
Transistor Voltage Table			
Ref No	B Base	C Collector	E Emitter
Q1701	2.5	8.8	1.8
Q1702	2.5	5.5	1.8
Q1703	134.3	71.8	134.8
Q1704	5.5	8.8	4.8
Q1706	1.0	71.8	0.4
Q1707	0.7	-	-
Q1708	2.9	6.6	2.2
Q1709	2.2	8.8	1.5
Q1840	0.6	-	-

D2 BOARD IC VOLTAGE TABLE

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC1802	1-2	2.8
	3	3.0
	5-6	4.4
	7	6.2
	8	9.0

TUVIF (AEP) (KV-29X1A, 29X1D, 29X1E, 29X1K, 29X1L and 29X1R ONLY)

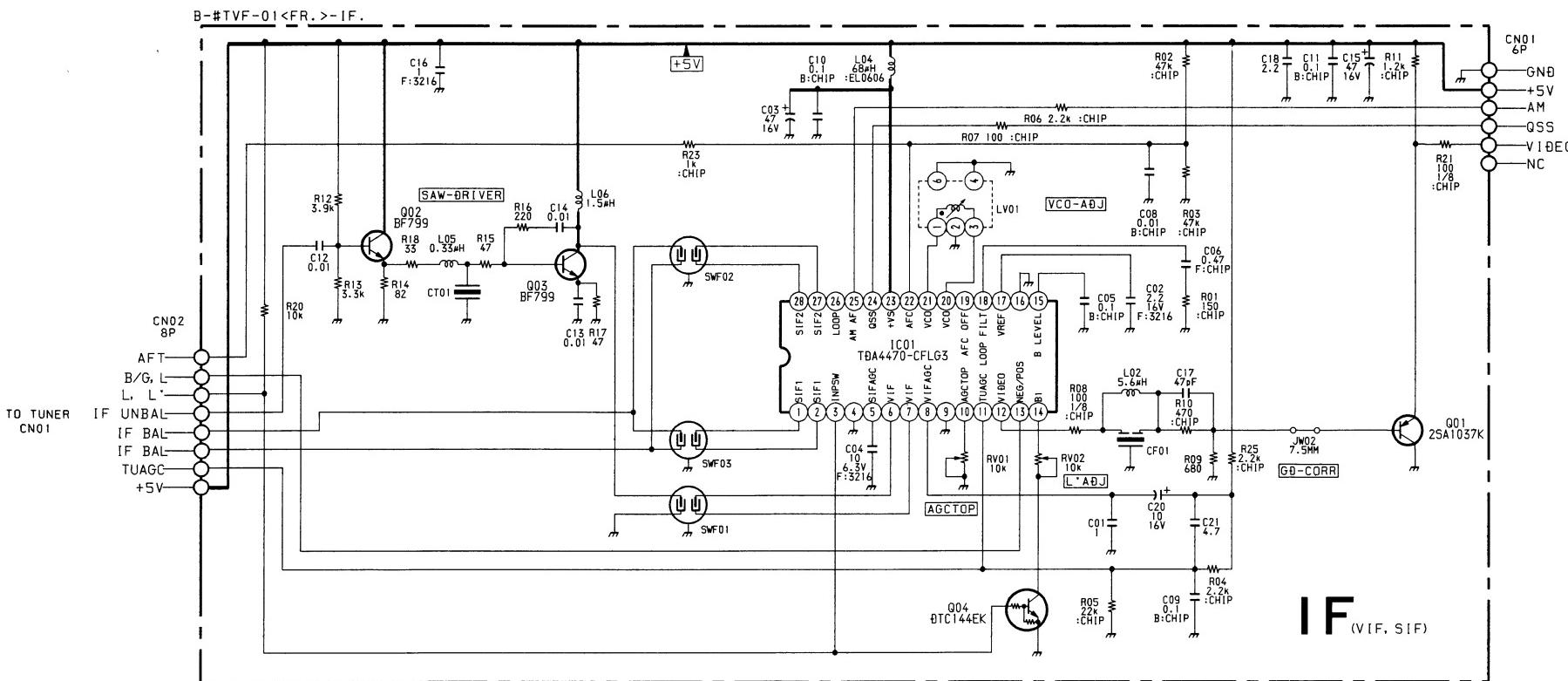
TUVIF (UK) (KV-29X1U ONLY)



IF Board

Model	29X1A	29X1D	29X1E	29X1K	29X1L	29X1R	29X1U
Ref. No.	5.5MHz	5.5MHz	5.5MHz	5.5MHz	5.5MHz	5.5MHz	6.0MHz
CF01	680MF	680MF	680MF	680MF	680MF	680MF	1K

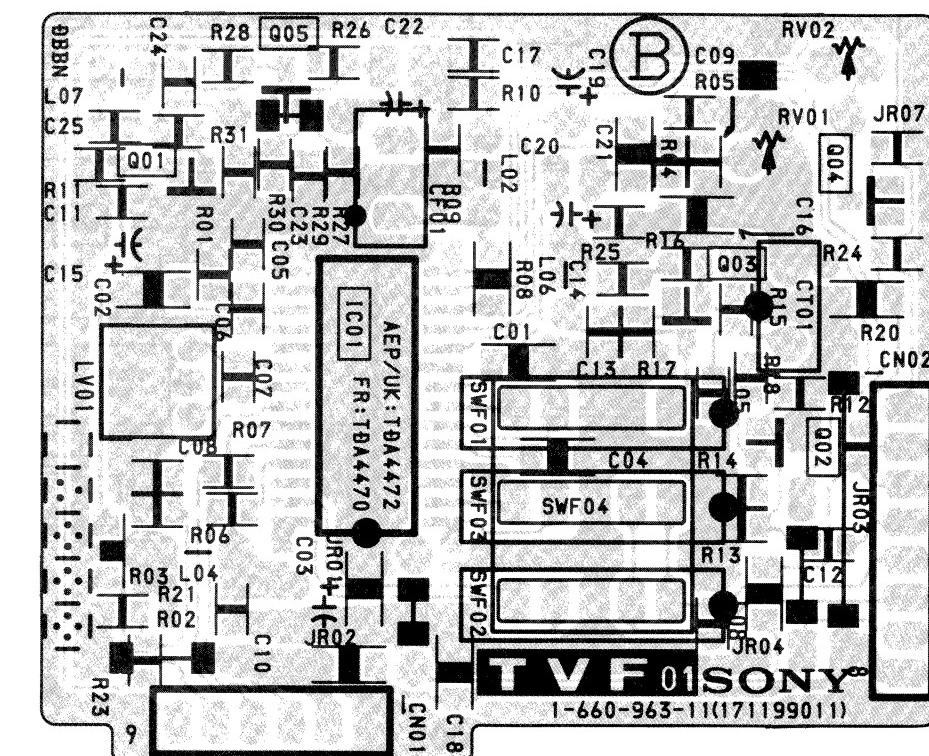
TUVIF (FR) (KV-29X1B ONLY)

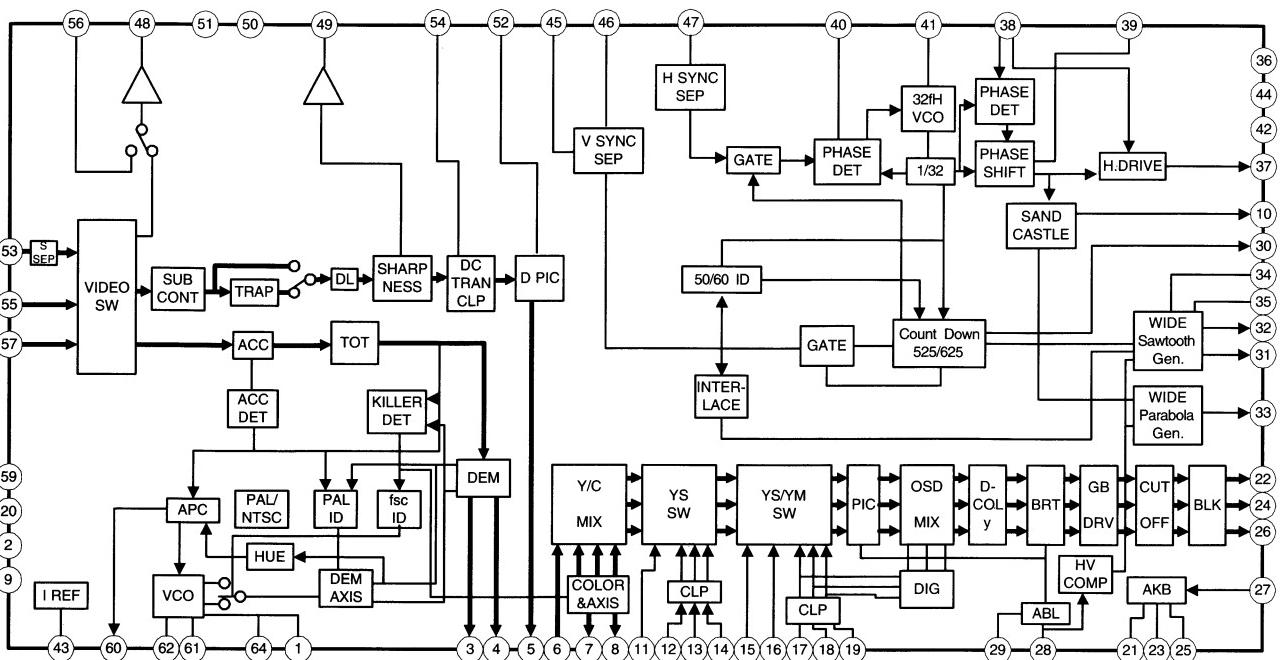
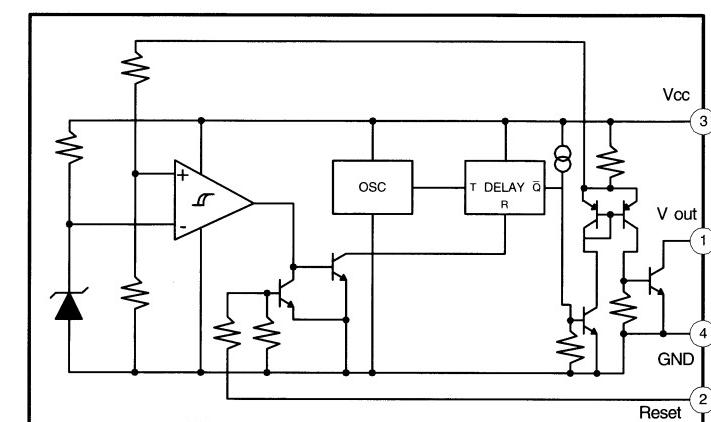
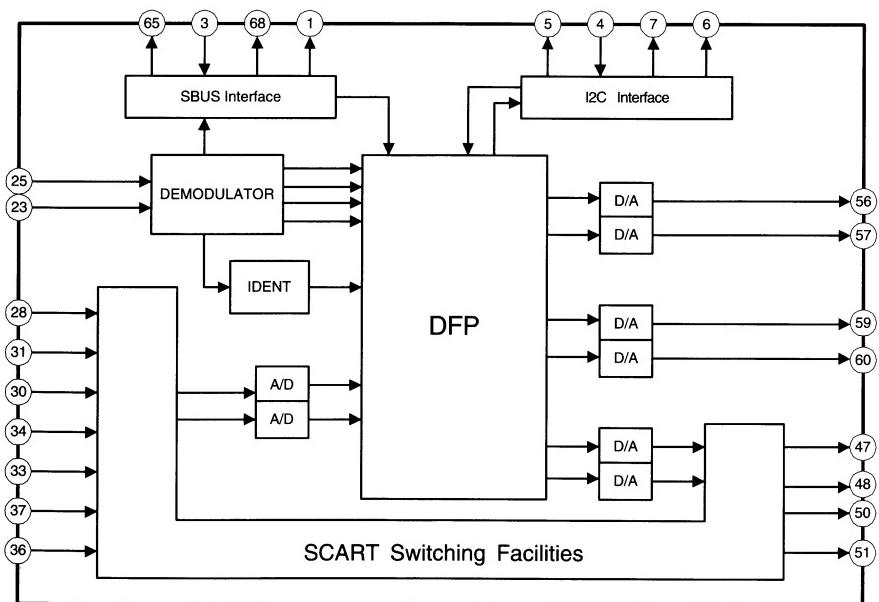
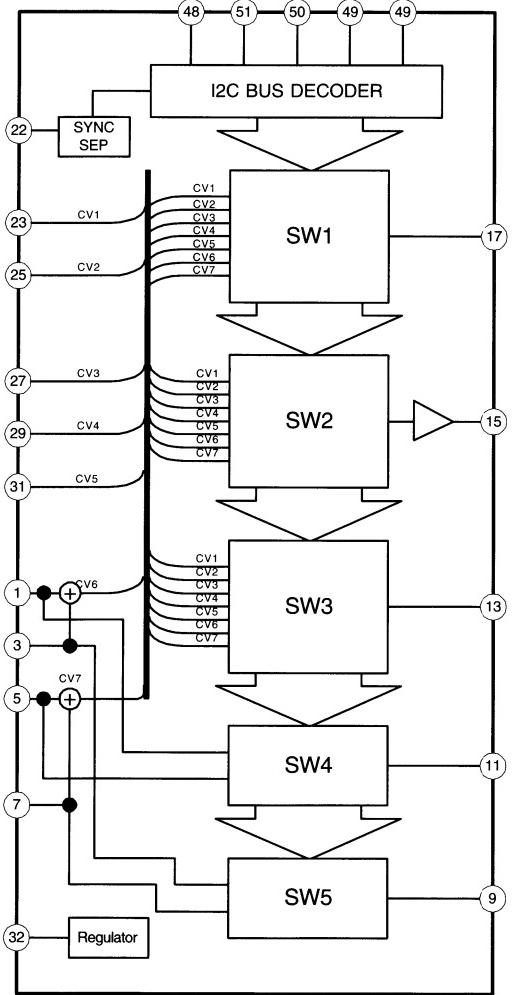
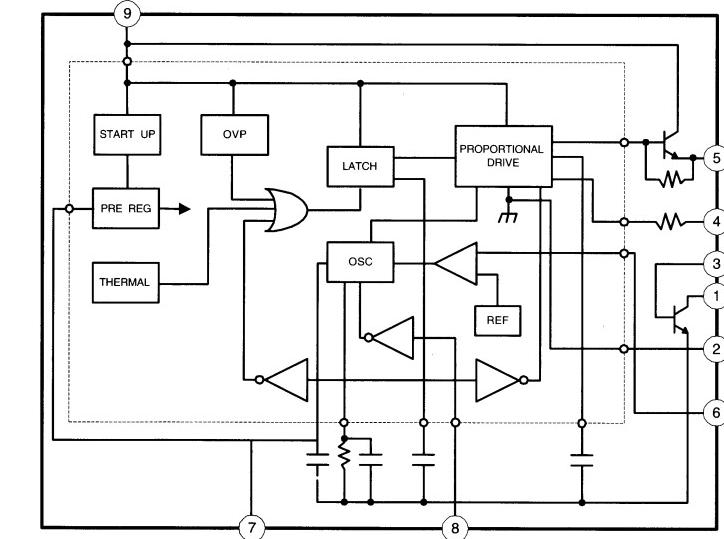
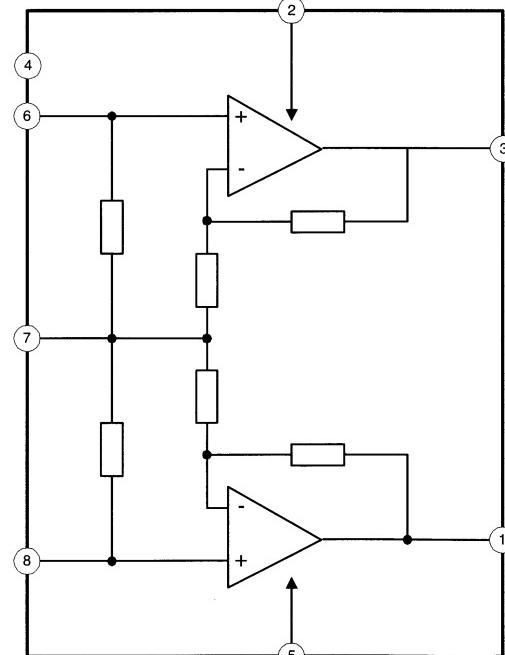


IF

[VIF, SIF]

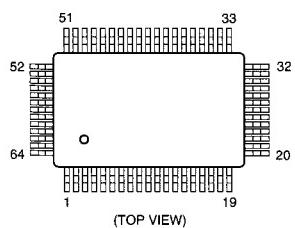
IF Board



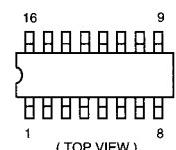
A BOARD IC301 CXA2000Q-TL**A BOARD IC4 PST593C****A BOARD IC202 MSP3410/MSP3400****A BOARD IC201 CXA2040Q****D BOARD IC600 STR-S6708****D BOARD IC1200 TDA7264**

5-4. SEMICONDUCTORS

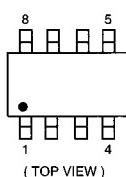
CXA2000Q-TL



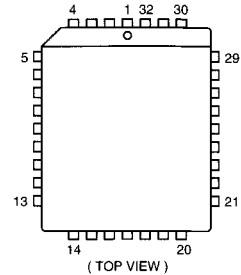
MC14052BDR2



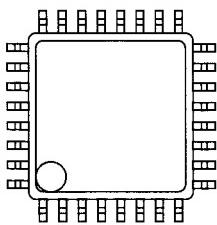
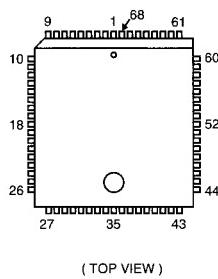
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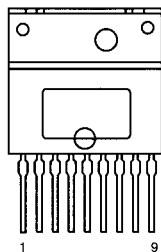
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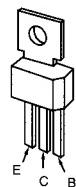
CXA2040Q-T4

MSP3400C-PS
MSP3410-15

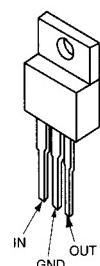
STR-S6708



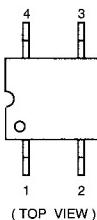
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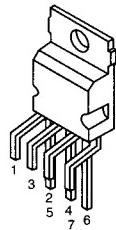
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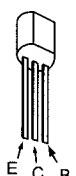
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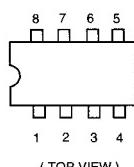
STV9379



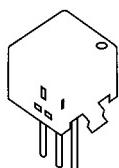
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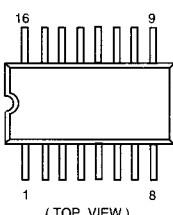
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 μ PC393C



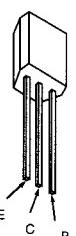
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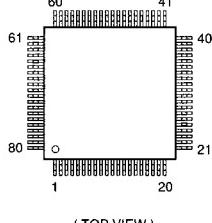
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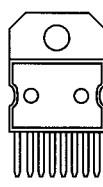
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DTC114ES
DTC143TS
DTC144ES
2SC1740S-RT



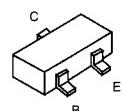
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LM2940CT
LM2940T-9.0
MCT7809CT
 μ PC2405HF



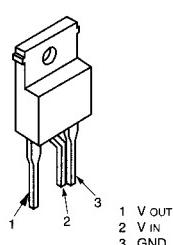
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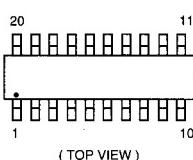
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2SA1162-G
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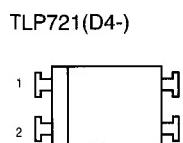


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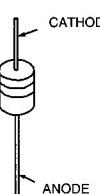
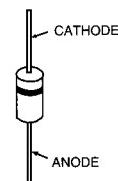
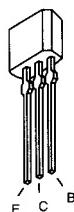
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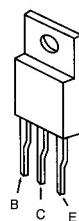


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EG-1Z-V1	RGP02	MTZJ-3.9B	RD5.1ESB2
EGP20G	RGP10GPKG23	MTZJ-5.1B	RD5.6ESB2
EL1Z	RGP15GPKG23	MTZJ-5.6B	RD6.2ESB2
EM1-V1	RU3YX	MTZJ-6.2B	RD6.8ESB2
EU-1-V1	RU4AM-T3	MTZJ-6.8B	RD7.5ESB2
EU2-V1	RU4DS	MTZJ-7.5C	RD10ESB2
FML-G12S		MTZJ-9.1	RD39ES-B2
		MTZJ-T-77-9.1A	
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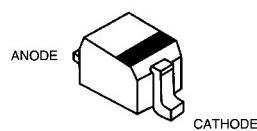
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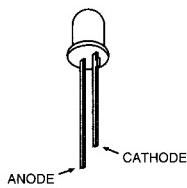
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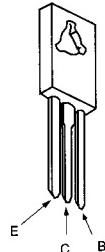
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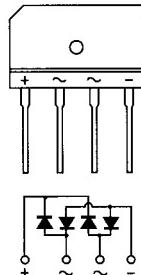
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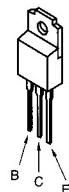
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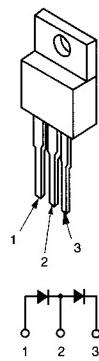
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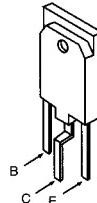
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FMS-3FU



2SC4927-01



SECTION 6

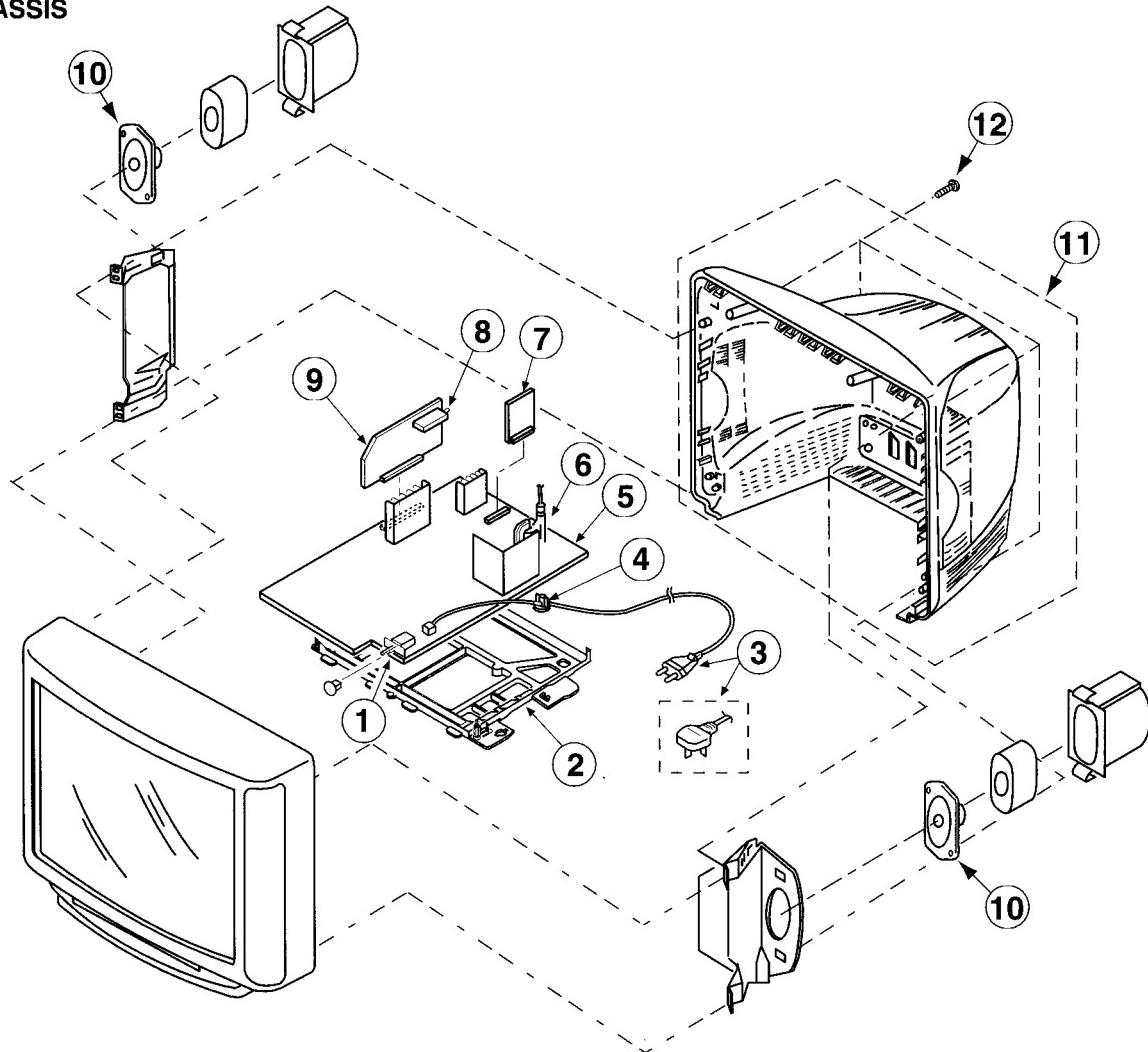
EXPLODED VIEWS

NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

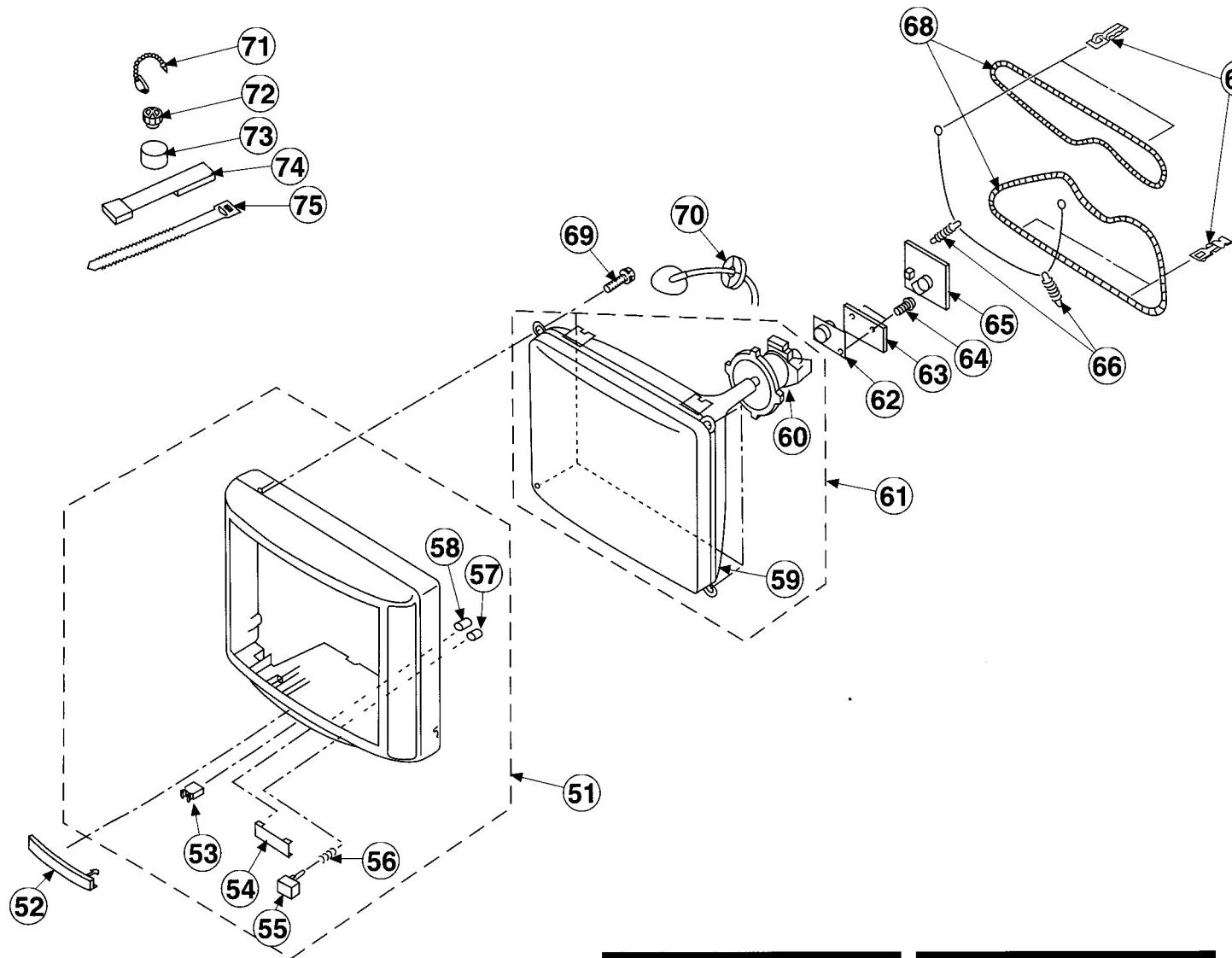
The components identified by shading and marked **A** are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS

REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
1	1-571-433-21	SWITCH, PUSH (AC POWER)		8	1-693-338-11	TUNER/VIF (AEP) (KV-29X1A/29X1D/29X1E/29X1K/29X1L/ 29X1R)	
2	*4-203-315-01	BRACKET, MAIN		9	1-693-340-11	TUNER/VIF (FR) (KV-29X1B)	
3	A 1-751-680-11	CORD, POWER (WITH NOISE FILTER) 2.5A/250V (KV-29X1A/29X1B/29X1D/ 29X1E)			1-693-339-11	TUNER/VIF (UK) (KV-29X1U)	
A	1-690-279-21	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-29X1K/29X1R)			*A-1632-423-A	A BOARD, COMPLETE (KV-29X1A)	
A	1-776-240-11	CORD, POWER (FILTER) 3A/250V (KV-29X1L/29X1U)			*A-1632-425-A	A BOARD, COMPLETE (KV-29X1B)	
A	*4-202-531-01	AC CORD LOCK (SC)			*A-1632-422-A	A BOARD, COMPLETE (KV-29X1D)	
5	*A-1642-165-A	D BOARD, COMPLETE			*A-1632-424-A	A BOARD, COMPLETE (KV-29X1E)	
6	A 1-453-159-11	TRANSFORMER ASSY, FLYBACK (DI-160142)			*A-1632-426-A	A BOARD, COMPLETE (KV-29X1K)	
7	*A-1640-214-A	D2 BOARD, COMPLETE			*A-1632-433-A	A BOARD, COMPLETE (KV-29X1L)	
					*A-1632-427-A	A BOARD, COMPLETE (KV-29X1R)	
					*A-1632-400-A	A BOARD, COMPLETE (KV-29X1U)	
				10	1-544-727-11	SPEAKER (7.5x13CM)	
				11	X-4200-257-1	COVER ASSY, REAR (SC)	
				12	4-039-358-01	SCREW (4x16), (+) BV TAPPING	

6-2. PICTURE TUBE



The components identified by shading and marked are critical for safety.

Replace only with the part number specified.

Les composants identifiés par une trame et une marque sont critiques pour la securite.

Ne les remplacer que par une piece portant le numero specifie.

REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
51	X-4200-258-1	BEZNET ASSY		53-58			
52	4-203-364-01	DOOR, CONTROL		67	4-202-415-01	CLIP, DGC (29")	
53	4-047-464-01	CATCHER, PUSH		68	1-406-807-11	COIL, DEGAUSSING	
54	4-203-365-01	WINDOW, ORNAMENTAL		69	4-036-188-01	SCREW (M), PT	
55	4-203-362-01	BUTTON, POWER		70	4-202-693-01	HOLDER, HV CABLE	
56	4-202-964-01	SPRING		71	4-308-870-00	CLIP, LEAD WIRE	
57	*4-203-363-01	GUIDE, LED LIGHT		72	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
58	4-202-465-01	GUIDE, LED LIGHT		73	1-452-032-00	MAGNET, DISK; 10MM Ø	
59	8-733-856-05	PICTURE TUBE (SD-269) (N68LCT602)		74	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
60	8-451-467-11	DEFLECTION YOKE (Y29GXAB)		75	3-701-007-00	BAND, BINDING	
61	8-733-856-71	ITC	59-60				
62	8-453-005-11	NECK ASSY (NA297-M)					
63	*A-1644-070-A	VM BOARD, COMPLETE					
64	4-639-357-01	SCREW(3x8), (+) BV TAPPING					
65	*A-1638-082-A	C BOARD, COMPLETE					
66	4-200-433-01	SPRING, EXTENSION					

SECTION 7

ELECTRICAL PARTS LIST

The components identified by shading and marked  are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

CAPACITORS COILS
MF : mF, PF : mmF MMH : mH, μ H :

MMH : mH, μ H : mH

A

A

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK		
C257	1-126-965-11	ELECT 22MF	20%	50V	C337	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C258	1-126-964-11	ELECT 10MF	20%	50V	C338	1-164-346-11	CERAMIC CHIP 1MF	16V	
C259	1-164-336-11	CERAMIC CHIP 0.33MF		25V	C339	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C260	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C340	1-126-933-11	ELECT 100MF	20%	16V
C261	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	C341	1-164-005-11	CERAMIC CHIP 0.47MF	25V	
C262	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	C342	1-164-346-11	CERAMIC CHIP 1MF	16V	
C263	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C343	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C264	1-126-962-11	ELECT 3.3MF	20%	50V	C344	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C265	1-126-964-11	ELECT 10MF	20%	50V	C347	1-164-005-11	CERAMIC CHIP 0.47MF	25V	
C266	1-126-964-11	ELECT 10MF	20%	50V	C348	1-163-038-00	CERAMIC CHIP 0.1MF	25V	
C267	1-126-965-11	ELECT 22MF	20%	50V	C350	1-126-964-11	ELECT 10MF	20%	50V
C268	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C351	1-164-505-11	CERAMIC CHIP 2.2MF	16V	
C269	1-163-131-00	CERAMIC CHIP 390PF	5%	50V	C352	1-164-005-11	CERAMIC CHIP 0.47MF	25V	
C270	1-163-131-00	CERAMIC CHIP 390PF	5%	50V	C353	1-164-505-11	CERAMIC CHIP 2.2MF	16V	
C271	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	C354	1-164-005-11	CERAMIC CHIP 0.47MF	25V	
C272	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	C355	1-126-965-11	ELECT 22MF	20%	50V
C273	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	C356	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C274	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	C357	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C275	1-164-346-11	CERAMIC CHIP 1MF		16V	C358	1-164-005-11	CERAMIC CHIP 0.47MF	25V	
C276	1-164-346-11	CERAMIC CHIP 1MF		16V	C359	1-163-231-11	CERAMIC CHIP 15PF	5%	50V
C277	1-164-346-11	CERAMIC CHIP 1MF		16V	C360	1-163-231-11	CERAMIC CHIP 15PF	5%	50V
C278	1-164-346-11	CERAMIC CHIP 1MF		16V	C370	1-164-505-11	CERAMIC CHIP 2.2MF	16V	
								(KV-29X1B/29X1D/29X1E/29X1K/29X1R)	
C279	1-126-965-11	ELECT 22MF	20%	50V	C371	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C280	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C372	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C281	1-126-965-11	ELECT 22MF	20%	50V				(KV-29X1B/29X1D/29X1E/29X1K/29X1R)	
C282	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C373	1-164-489-11	CERAMIC CHIP 0.22MF	10%	16V
C300	1-163-109-00	CERAMIC CHIP 47PF	5%	50V				(KV-29X1B/29X1D/29X1E/29X1K/29X1R)	
C301	1-163-038-00	CERAMIC CHIP 0.1MF		25V				< FILTER >	
C302	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	CF120	1-409-327-00	TRAP, CERAMIC (6.5MHz)	(KV-29X1B)	
C303	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V				< CONNECTOR >	
C304	1-163-038-00	CERAMIC CHIP 0.1MF		25V					
C305	1-163-038-00	CERAMIC CHIP 0.1MF		25V	CN1	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P		
C306	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	CN2	*1-568-880-51	PIN, CONNECTOR 5P		
C307	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	CN201	1-766-296-11	CONNECTOR, DUAL SCART		
C308	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	CN301	*1-568-882-51	PIN, CONNECTOR 7P		
C309	1-164-346-11	CERAMIC CHIP 1MF		16V				< DIODE >	
C310	1-164-346-11	CERAMIC CHIP 1MF		16V	D2	8-719-988-62	DIODE 1SS355		
C311	1-164-346-11	CERAMIC CHIP 1MF		16V	D10	8-719-158-15	DIODE RD5.6S-B		
C312	1-164-505-11	CERAMIC CHIP 2.2MF		16V	D11	8-719-158-15	DIODE RD5.6S-B		
C313	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	D12	8-719-158-15	DIODE RD5.6S-B		
C315	1-216-295-00	METAL GLAZE 0 5%		1/10W	D101	8-719-977-81	DIODE DTZ33B		
C317	1-163-038-00	CERAMIC CHIP 0.1MF		25V	D201	8-719-977-22	DIODE DTZ9.1		
C319	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	D202	8-719-977-22	DIODE DTZ9.1		
C320	1-126-965-11	ELECT 22MF	20%	50V	D203	8-719-977-22	DIODE DTZ9.1		
C321	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	D204	8-719-977-22	DIODE DTZ9.1		
C322	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D205	8-719-977-22	DIODE DTZ9.1		
C323	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D206	8-719-977-22	DIODE DTZ9.1		
C324	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	D207	8-719-977-22	DIODE DTZ9.1		
C325	1-164-346-11	CERAMIC CHIP 1MF		16V	D208	8-719-977-22	DIODE DTZ9.1		
C326	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	D209	8-719-977-22	DIODE DTZ9.1		
C327	1-137-374-11	FILM 0.047MF	5%	50V	D210	8-719-977-22	DIODE DTZ9.1		
C328	1-126-964-11	ELECT 10MF	20%	50V	D211	8-719-977-22	DIODE DTZ9.1		
C329	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	D212	8-719-977-22	DIODE DTZ9.1		
C330	1-130-777-00	FILM 0.1MF	5%	63V	D213	8-719-977-22	DIODE DTZ9.1		
C331	1-137-581-11	FILM 0.1MF	5%	100V	D214	8-719-977-22	DIODE DTZ9.1		
C332	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	D215	8-719-977-22	DIODE DTZ9.1		
C333	1-126-933-11	ELECT 100MF	20%	16V	D216	8-719-158-15	DIODE RD5.6S-B		
C334	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V					
C335	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V					
C336	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V					



A

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK	
R17	1-216-025-91	METAL GLAZE	100 5% 1/10W (KV-29X1A/29X1D/29X1E/29X1K/29X1L/ 29X1R/29X1U)		R86	1-216-077-00	METAL GLAZE	15K 5% 1/10W
				R87	1-216-081-00	METAL GLAZE	22K 5% 1/10W	
				R88	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R18	1-216-025-00	METAL GLAZE	100 5% 1/10W	R91	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R19	1-216-025-00	METAL GLAZE	100 5% 1/10W	R92	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R20	1-216-025-00	METAL GLAZE	100 5% 1/10W	R93	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R21	1-216-025-00	METAL GLAZE	100 5% 1/10W	R94	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R24	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R95	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R25	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R97	1-216-295-00	METAL GLAZE	0 5% 1/10W	
R28	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R98	1-216-295-00	METAL GLAZE	0 5% 1/10W	
R29	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R101	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	
R30	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R102	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R31	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R103	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R32	1-216-025-00	METAL GLAZE	100 5% 1/10W	R104	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R33	1-216-025-00	METAL GLAZE	100 5% 1/10W	R105	1-216-113-00	METAL GLAZE	470K 5% 1/10W	
R34	1-216-025-00	METAL GLAZE	100 5% 1/10W	R106	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R35	1-216-025-00	METAL GLAZE	100 5% 1/10W	R110	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R36	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R111	1-216-029-00	METAL GLAZE	150 5% 1/10W	
R37	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R112	1-216-029-00	METAL GLAZE	150 5% 1/10W	
R38	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R113	1-216-001-00	METAL GLAZE	10 5% 1/10W	
R39	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R114	1-216-029-00	METAL GLAZE	150 5% 1/10W	
R40	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R115	1-216-037-00	METAL GLAZE	330 5% 1/10W	
R42	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R116	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	
R44	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R117	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W (KV-29X1A/29X1B/29X1D/29X1E/29X1K/ 29X1L/29X1R)	
R46	1-216-095-00	METAL GLAZE	82K 5% 1/10W		1-216-056-00	METAL GLAZE	2K 5% 1/10W (KV-29X1U)	
R47	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W					
R48	1-216-121-91	METAL GLAZE	1M 5% 1/10W					
R49	1-216-025-00	METAL GLAZE	100 5% 1/10W					
R50	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R118	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	
R51	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R119	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R52	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R120	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	
R53	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R121	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R54	1-216-025-00	METAL GLAZE	100 5% 1/10W	R122	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R58	1-216-063-91	METAL GLAZE	3.9K 5% 1/10W	R123	1-216-031-00	METAL GLAZE	180 5% 1/10W	
R59	1-216-025-00	METAL GLAZE	100 5% 1/10W	R124	1-216-049-00	METAL GLAZE	1K 5% 1/10W	
R60	1-216-025-00	METAL GLAZE	100 5% 1/10W	R125	1-216-081-00	METAL GLAZE	22K 5% 1/10W	
R61	1-216-025-00	METAL GLAZE	100 5% 1/10W	R126	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R62	1-216-025-00	METAL GLAZE	100 5% 1/10W	R127	1-216-081-00	METAL GLAZE	22K 5% 1/10W	
R63	1-216-025-00	METAL GLAZE	100 5% 1/10W	R128	1-216-035-00	METAL GLAZE	270 5% 1/10W	
R64	1-216-025-00	METAL GLAZE	100 5% 1/10W	R129	1-216-037-00	METAL GLAZE	330 5% 1/10W	
R65	1-216-025-00	METAL GLAZE	100 5% 1/10W	R130	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R66	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R131	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R67	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R132	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R69	1-216-025-00	METAL GLAZE	100 5% 1/10W	R133	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R70	1-216-025-00	METAL GLAZE	100 5% 1/10W	R134	1-216-001-00	METAL GLAZE	10 5% 1/10W	
R71	1-216-025-00	METAL GLAZE	100 5% 1/10W	R135	1-216-045-00	METAL GLAZE	680 5% 1/10W	
R72	1-216-025-00	METAL GLAZE	100 5% 1/10W	R136	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R73	1-216-025-00	METAL GLAZE	100 5% 1/10W	R137	1-216-049-00	METAL GLAZE	1K 5% 1/10W	
R74	1-216-025-00	METAL GLAZE	100 5% 1/10W	R138	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R75	1-216-025-00	METAL GLAZE	100 5% 1/10W	R200	1-216-049-00	METAL GLAZE	1K 5% 1/10W	
R76	1-216-025-00	METAL GLAZE	100 5% 1/10W	R201	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R77	1-216-025-00	METAL GLAZE	100 5% 1/10W	R202	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R78	1-216-025-00	METAL GLAZE	100 5% 1/10W	R203	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R79	1-216-033-00	METAL GLAZE	220 5% 1/10W	R204	1-216-025-00	METAL GLAZE	100 5% 1/10W	
R80	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R205	1-216-093-00	METAL GLAZE	68K 5% 1/10W	
R81	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R206	1-216-033-00	METAL GLAZE	220 5% 1/10W	
R82	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R208	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R83	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R209	1-216-049-00	METAL GLAZE	1K 5% 1/10W	
R84	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R210	1-216-017-91	METAL GLAZE	47 5% 1/10W	
R85	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R211	1-216-033-00	METAL GLAZE	220 5% 1/10W	

A

REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK	
R212	1-216-022-00	METAL GLAZE	75	5%	1/10W		R316	1-216-033-00	METAL GLAZE	220	5%	1/10W		
R213	1-216-022-00	METAL GLAZE	75	5%	1/10W		R318	1-216-689-11	METAL GLAZE	39K	5%	1/10W		
R214	1-216-025-00	METAL GLAZE	100	5%	1/10W		R319	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R216	1-216-025-00	METAL GLAZE	100	5%	1/10W		R320	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R217	1-216-113-00	METAL GLAZE	470K	5%	1/10W		R321	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R218	1-216-025-00	METAL GLAZE	100	5%	1/10W		R322	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R219	1-216-113-00	METAL GLAZE	470K	5%	1/10W		R323	1-216-033-00	METAL GLAZE	220	5%	1/10W		
R220	1-216-295-00	METAL GLAZE	0	5%	1/10W		R324	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W		
R221	1-216-039-00	METAL GLAZE	390	5%	1/10W		R326	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R222	1-216-089-00	METAL GLAZE	47K	5%	1/10W		R327	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R223	1-216-295-00	METAL GLAZE	0	5%	1/10W		R328	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W		
R224	1-216-039-00	METAL GLAZE	390	5%	1/10W		R329	1-216-089-00	METAL GLAZE	47K	5%	1/10W		
R225	1-216-089-00	METAL GLAZE	47K	5%	1/10W		R330	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R226	1-216-033-00	METAL GLAZE	220	5%	1/10W		R331	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W		
R227	1-216-022-00	METAL GLAZE	75	5%	1/10W		R332	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R228	1-216-022-00	METAL GLAZE	75	5%	1/10W		R333	1-216-075-00	METAL GLAZE	12K	5%	1/10W		
R229	1-216-033-00	METAL GLAZE	220	5%	1/10W		R334	1-216-041-00	METAL GLAZE	470	5%	1/10W		
R230	1-216-022-00	METAL GLAZE	75	5%	1/10W		R335	1-208-806-11	METAL CHIP	10K	0.50%	1/10W		
R232	1-216-025-00	METAL GLAZE	100	5%	1/10W		R336	1-216-109-00	METAL GLAZE	330K	5%	1/10W		
R233	1-216-025-00	METAL GLAZE	100	5%	1/10W		R337	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R234	1-216-113-00	METAL GLAZE	470K	5%	1/10W		R338	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W		
R235	1-216-025-00	METAL GLAZE	100	5%	1/10W		R339	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R236	1-216-113-00	METAL GLAZE	470K	5%	1/10W		R340	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R237	1-216-295-00	METAL GLAZE	0	5%	1/10W		R341	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R238	1-216-089-00	METAL GLAZE	47K	5%	1/10W		R342	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R239	1-216-039-00	METAL GLAZE	390	5%	1/10W		R343	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W		
R240	1-216-295-00	METAL GLAZE	0	5%	1/10W		R344	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W		
R241	1-216-089-00	METAL GLAZE	47K	5%	1/10W		R345	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R242	1-216-039-00	METAL GLAZE	390	5%	1/10W		R346	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W		
R243	1-216-033-00	METAL GLAZE	220	5%	1/10W		R347	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R244	1-216-033-00	METAL GLAZE	220	5%	1/10W		R348	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R245	1-216-073-00	METAL GLAZE	10K	5%	1/10W		R349	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R246	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W		R350	1-216-042-00	METAL GLAZE	510	5%	1/10W		
R247	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W		R351	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W		
R249	1-216-001-00	METAL GLAZE	10	5%	1/10W		R352	1-216-077-00	METAL GLAZE	15K	5%	1/10W		
R255	1-216-025-00	METAL GLAZE	100	5%	1/10W		R353	1-216-033-00	METAL GLAZE	220	5%	1/10W		
R256	1-216-025-00	METAL GLAZE	100	5%	1/10W		R354	1-216-033-00	METAL GLAZE	220	5%	1/10W		
R270	1-216-022-00	METAL GLAZE	75	5%	1/10W		R357	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R271	1-216-022-00	METAL GLAZE	75	5%	1/10W		R370	1-216-295-00	METAL GLAZE	0	5%	1/10W		
R272	1-216-022-00	METAL GLAZE	75	5%	1/10W			< TUNER >						
R273	1-216-022-00	METAL GLAZE	75	5%	1/10W		TU101	1-693-338-11	TUNER/VIF (AEP)	(KV-29X1A/29X1D/29X1E/29X1K/29X1L/29X1R)				
R280	1-216-049-00	METAL GLAZE	1K	5%	1/10W			1-693-340-11	TUNER/VIF (FR) (KV-29X1B)					
R281	1-216-089-00	METAL GLAZE	47K	5%	1/10W			1-693-339-11	TUNER/VIF (UK) (KV-29X1U)					
R282	1-216-093-00	METAL GLAZE	68K	5%	1/10W			< CRYSTAL >						
R283	1-216-049-00	METAL GLAZE	1K	5%	1/10W									
R284	1-216-089-00	METAL GLAZE	47K	5%	1/10W									
R285	1-216-093-00	METAL GLAZE	68K	5%	1/10W									
R286	1-216-049-00	METAL GLAZE	1K	5%	1/10W									
R300	1-216-025-00	METAL GLAZE	100	5%	1/10W		X1	1-767-120-21	VIBRATOR, CERAMIC					
R301	1-216-033-00	METAL GLAZE	220	5%	1/10W		X201	1-760-628-11	VIBRATOR, CRYSTAL					
R302	1-216-295-00	METAL GLAZE	0	5%	1/10W		X301	1-567-504-11	OSCILLATOR, CRYSTAL					
R303	1-216-295-00	METAL GLAZE	0	5%	1/10W		X302	1-567-505-11	OSCILLATOR, CRYSTAL					
R308	1-216-025-00	METAL GLAZE	100	5%	1/10W		X303	1-767-127-11	VIBRATOR, CERAMIC					
R309	1-216-033-00	METAL GLAZE	220	5%	1/10W									
R310	1-216-033-00	METAL GLAZE	220	5%	1/10W									
R311	1-216-295-00	METAL GLAZE	0	5%	1/10W									
R312	1-216-295-00	METAL GLAZE	0	5%	1/10W									
R313	1-216-295-00	METAL GLAZE	0	5%	1/10W									
R314	1-216-295-00	METAL GLAZE	0	5%	1/10W									
R315	1-216-295-00	METAL GLAZE	0	5%	1/10W									

IF (KV-29X1A/29X1D/29X1E/29X1K /
29X1L/29X1R/29X1U)

IF (KV-29X1B)

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
A-1652-037-A	IF BOARD, COMPLETE (KV-29X1A/29X1D/ ***** 29X1E/29X1K/ 29X1L/29X1R)			R23	1-216-049-91	METAL GLAZE 1K 5%	1/10W
A-1652-038-A	IF BOARD, COMPLETE (KV-29X1U) *****			R24	1-216-295-91	METAL GLAZE 0 5%	1/10W
				R25	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
				R021	1-216-174-00	METAL GLAZE 100 5%	1/8W
							< VARIABLE RESISTOR >
				RV01	1-226-703-11	RES, ADJ, METAL GLAZE 10K	

							A-1652-036-A IF BOARD, COMPLETE (KV-29X1B) *****
							< CAPACITOR >
C01	1-164-337-11	CERAMIC CHIP 2.2MF	16V	C01	1-162-638-11	CERAMIC CHIP 1MF	16V
C02	1-164-337-11	CERAMIC CHIP 2.2MF	16V	C02	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C03	1-104-957-11	ELECT 47MF	20% 16V	C03	1-104-957-11	ELECT 47MF	20% 16V
C04	1-135-259-11	TANTAL. CHIP 10MF	20% 6.3V	C04	1-135-259-11	TANTAL. CHIP 10MF	20% 6.3V
C05	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C05	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C06	1-164-005-11	CERAMIC CHIP 0.47MF	16V	C06	1-164-005-11	CERAMIC CHIP 0.47MF	16V
C08	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C08	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C09	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C09	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C10	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C10	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C11	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C11	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C15	1-124-282-00	ELECT 22MF	20% 25V	C12	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C16	1-162-638-11	CERAMIC CHIP 1MF	16V	C13	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C18	1-164-337-11	CERAMIC CHIP 2.2MF	16V	C14	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C19	1-124-937-11	ELECT 10MF	20% 16V	C15	1-104-957-11	ELECT 47MF	20% 16V
				C16	1-162-638-11	CERAMIC CHIP 1MF	16V
				C17	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
				C18	1-164-337-11	CERAMIC CHIP 2.2MF	16V
				C20	1-124-937-11	ELECT 10MF	20% 16V
				C21	1-164-506-11	CERAMIC CHIP 4.7MF	16V
							< FILTER >
CF01	1-404-134-00	TRAP, CERAMIC (5.5MHZ)		CF01	1-409-430-11	TRAP, CERAMIC	
SWF04	1-767-084-11	FILTER, SURFACE WAVE		SWF01	1-579-273-11	FILTER, SURFACE WAVE	
				SWF02	1-760-329-11	FILTER, SURFACE WAVE	
				SWF03	1-767-083-11	FILTER, SURFACE WAVE	
							< IC >
IC01	8-759-385-26	IC TDA4472-CFLG3		IC01	8-759-069-36	IC MC74HC4046AF	
							< COIL >
				LO2	1-408-406-00	INDUCTOR 5.6UH	
L02	1-408-408-00	INDUCTOR 8.2UH		LO4	1-408-419-00	INDUCTOR 68UH	
L04	1-408-419-00	INDUCTOR 68UH		LO5	1-410-987-11	INDUCTOR CHIP 0.33UH	
L08	1-410-992-11	INDUCTOR CHIP 0.82UH		LO6	1-408-399-00	INDUCTOR 1.5UH	
							< VARIABLE COIL >
				LV01	1-411-874-11	COIL	
							< TRANSISTOR >
Q01	8-729-216-22	TRANSISTOR 2SA1162-G		Q01	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q02	8-729-035-11	TRANSISTOR BF799-GEG	
				Q03	8-729-035-11	TRANSISTOR BF799-GEG	
				Q04	8-729-901-01	TRANSISTOR DTC144EK	
							< RESISTOR >
JR01	1-216-296-91	METAL GLAZE 0 5%	1/10W				
JR02	1-216-296-91	METAL GLAZE 0 5%	1/8W				
JR03	1-216-295-00	METAL GLAZE 0 5%	1/10W				
JR04	1-216-296-91	METAL GLAZE 0 5%	1/8W				
JR05	1-216-295-00	METAL GLAZE 0 5%	1/10W				
JR07	1-216-295-00	METAL GLAZE 0 5%	1/10W				
R01	1-216-029-00	METAL GLAZE 150 5%	1/10W	LO2	1-408-406-00	INDUCTOR 5.6UH	
R02	1-216-089-91	METAL GLAZE 47K 5%	1/10W	LO4	1-408-419-00	INDUCTOR 68UH	
R03	1-216-089-91	METAL GLAZE 47K 5%	1/10W	LO5	1-410-987-11	INDUCTOR CHIP 0.33UH	
R04	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	LO6	1-408-399-00	INDUCTOR 1.5UH	
R05	1-216-081-00	METAL GLAZE 22K 5%	1/10W				< VARIABLE COIL >
R06	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	LV01	1-411-874-11	COIL	
R07	1-216-025-91	METAL GLAZE 100 5%	1/10W				< TRANSISTOR >
R08	1-216-174-00	METAL GLAZE 100 5%	1/8W	Q01	8-729-216-22	TRANSISTOR 2SA1162-G	
R09	1-216-045-00	METAL GLAZE 680 5%	1/10W	Q02	8-729-035-11	TRANSISTOR BF799-GEG	
R10	1-216-041-00	METAL GLAZE 470 5%	1/10W	Q03	8-729-035-11	TRANSISTOR BF799-GEG	
R11	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	Q04	8-729-901-01	TRANSISTOR DTC144EK	

Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and marked are critical for safety.
Replace only with the part number specified.

IF (KV-29X1B)

C

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK		
< RESISTOR >									
JR01	1-216-296-91	METAL GLAZE	0	5%	1/8W	D701	8-719-109-72	DIODE RD3.9ES-B2	
JR02	1-216-296-91	METAL GLAZE	0	5%	1/8W	D702	8-719-991-33	DIODE 1SS133T-77	
JR03	1-216-295-00	METAL GLAZE	0	5%	1/10W	D706	8-719-991-33	DIODE 1SS133T-77	
JR04	1-216-296-91	METAL GLAZE	0	5%	1/8W	D707	8-719-991-33	DIODE 1SS133T-77	
JR05	1-216-295-00	METAL GLAZE	0	5%	1/10W	D708	8-719-991-33	DIODE 1SS133T-77	
JR07	1-216-295-00	METAL GLAZE	0	5%	1/10W	D709	8-719-991-33	DIODE 1SS133T-77	
R01	1-216-029-00	METAL GLAZE	150	5%	1/10W	D710	8-719-991-33	DIODE 1SS133T-77	
R02	1-216-089-91	METAL GLAZE	47K	5%	1/10W	D711	8-719-302-43	DIODE EL1Z	
R03	1-216-089-91	METAL GLAZE	47K	5%	1/10W	D714	8-719-991-33	DIODE 1SS133T-77	
R04	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	D715	8-719-991-33	DIODE 1SS133T-77	
R05	1-216-081-00	METAL GLAZE	22K	5%	1/10W	D716	8-719-991-33	DIODE 1SS133T-77	
R06	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	D717	8-719-991-33	DIODE 1SS133T-77	
R07	1-216-025-91	METAL GLAZE	100	5%	1/10W	D718	8-719-991-33	DIODE 1SS133T-77	
R08	1-216-174-00	METAL GLAZE	100	5%	1/8W	D719	8-719-991-33	DIODE 1SS133T-77	
R09	1-216-045-00	METAL GLAZE	680	5%	1/10W	D720	8-719-991-33	DIODE 1SS133T-77	
R10	1-216-041-00	METAL GLAZE	470	5%	1/10W	< CRT SOCKET >			
R11	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	J701 1-216-290-12 SOCKET, CRT			
R12	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	< COIL >			
R13	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	L704	1-408-609-41	INDUCTOR 33UH	
R14	1-216-023-00	METAL GLAZE	82	5%	1/10W	< TRANSISTOR >			
R15	1-216-017-91	METAL GLAZE	47	5%	1/10W	Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R16	1-216-033-00	METAL GLAZE	220	5%	1/10W	Q703	8-729-906-70	TRANSISTOR BF871-127	
R17	1-216-017-91	METAL GLAZE	47	5%	1/10W	Q704	8-729-200-17	TRANSISTOR 2SA1091-0	
R18	1-216-013-00	METAL GLAZE	33	5%	1/10W	Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R20	1-216-222-00	METAL GLAZE	10K	5%	1/8W	Q706	8-729-906-70	TRANSISTOR BF871-127	
R23	1-216-049-91	METAL GLAZE	1K	5%	1/10W	Q707	8-729-200-17	TRANSISTOR 2SA1091-0	
R25	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R21	1-216-174-00	METAL GLAZE	100	5%	1/8W	Q709	8-729-906-70	TRANSISTOR BF871-127	
< VARIABLE RESISTOR >									
RV01	1-226-703-11	RES, ADJ, METAL GLAZE	10K			Q710	8-729-200-17	TRANSISTOR 2SA1091-0	
RV02	1-226-703-11	RES, ADJ, METAL GLAZE	10K			Q711	8-729-173-38	TRANSISTOR 2SA733-K	

< RESISTOR >									
*A-1638-082-A C BOARD, COMPLETE				R704	1-216-486-00	METAL OXIDE	8.2K 5% 3W F		
*****				R705	1-260-103-11	CARBON	2.2K 5% 1/2W		
< CAPACITOR >				R706	1-247-815-91	CARBON	220 5% 1/4W		
C702	1-102-824-00	CERAMIC	470PF	5%	50V	R707	1-249-408-11	CARBON	180 5% 1/4W
C703	1-102-116-00	CERAMIC	680PF	10%	50V	R709	1-202-844-00	SOLID	330K 10% 1/2W
C708	1-162-114-00	CERAMIC	0.0047MF			R711	1-249-423-11	CARBON	3.3K 5% 1/4W
C710	1-107-652-11	ELECT	10MF	20%	250V	R712	1-260-103-11	CARBON	2.2K 5% 1/2W
C712	1-102-116-00	CERAMIC	680PF	10%	50V	R714	1-216-486-00	METAL OXIDE	8.2K 5% 3W F
C714	1-126-967-11	ELECT	47MF	20%	16V	R715	1-249-417-11	CARBON	1K 5% 1/4W
C717	1-102-114-00	CERAMIC	470PF	10%	50V	R716	1-247-815-91	CARBON	220 5% 1/4W
C718	1-102-114-00	CERAMIC	470PF	10%	50V	R717	1-249-408-11	CARBON	180 5% 1/4W
C719	1-102-114-00	CERAMIC	470PF	10%	50V	R718	1-202-814-11	SOLID	33K 10% 1/2W
C722	1-101-880-00	CERAMIC	47PF	5%	50V	R720	1-249-423-11	CARBON	3.3K 5% 1/4W
C723	1-101-880-00	CERAMIC	47PF	5%	50V	R722	1-202-848-00	SOLID	680K 10% 1/2W
C724	1-101-880-00	CERAMIC	47PF	5%	50V	R723	1-249-417-11	CARBON	1K 5% 1/4W
< CONNECTOR >				R724	1-202-846-00	SOLID	470K 10% 1/2W		
CN701	1-778-037-11	PIN, CONNECTOR 6P				R726	1-260-103-11	CARBON	2.2K 5% 1/2W
CN702	1-695-915-11	TAB (CONTACT)				R727	1-247-815-91	CARBON	220 5% 1/4W
CN703	*1-568-882-51	PIN, CONNECTOR 7P				R728	1-216-350-11	METAL OXIDE	1.2 5% 1W F
						R729	1-249-408-11	CARBON	180 5% 1/4W
						R731	1-249-423-11	CARBON	3.3K 5% 1/4W
						R733	1-249-415-11	CARBON	680 5% 1/4W
						R734	1-247-807-31	CARBON	100 5% 1/4W
						R735	1-249-415-11	CARBON	680 5% 1/4W

C **D2** **D**

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R736	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C509	1-136-165-00	FILM	0.1MF 5% 50V
R739	1-249-417-11	CARBON	1K 5% 1/4W	C510	1-126-969-11	ELECT	220MF 20% 50V
R740	1-249-415-11	CARBON	680 5% 1/4W	C511	1-136-202-11	FILM	0.33MF 5% 63V
R741	1-202-549-00	SOLID	100 20% 1/2W	C513	1-106-220-00	MYLAR	0.1MF 10% 100V
R744	1-249-421-11	CARBON	2.2K 5% 1/4W	C514	1-136-165-00	FILM	0.1MF 5% 50V
R745	1-249-421-11	CARBON	2.2K 5% 1/4W	C515	1-126-941-11	ELECT	470MF 20% 25V
R746	1-249-421-11	CARBON	2.2K 5% 1/4W	C517	1-126-941-11	ELECT	470MF 20% 25V
R747	1-249-437-11	CARBON	47K 5% 1/4W	C518	1-102-228-00	CERAMIC	470PF 10% 500V
R748	1-249-417-11	CARBON	1K 5% 1/4W	C519	1-102-228-00	CERAMIC	470PF 10% 500V
R749	1-249-435-11	CARBON	33K 5% 1/4W	C520	1-126-941-11	ELECT	470MF 20% 25V
< VARIABLE RESISTOR >							
RV701	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M	C521	1-124-006-11	ELECT	10MF 20% 25V
RV702	1-241-656-21	RES, ADJ, METAL FILM	110M	C522	1-126-964-11	ELECT	10MF 20% 50V

*A-1640-214-A D2 BOARD, COMPLETE							

< CAPACITOR >							
C1801	1-126-967-11	ELECT	47MF 20% 50V	C602	1-161-964-91	CERAMIC	0.0047MF 20% 250V
C1803	1-137-368-11	FILM	0.0047MF 5% 50V	C603	1-125-555-11	ELECT	330MF 20% 400V
C1804	1-126-964-11	ELECT	10MF 20% 50V	C604	1-126-968-11	ELECT	100MF 20% 50V
C1807	1-137-366-11	FILM	0.0022MF 5% 50V	C605	1-107-929-11	ELECT	10MF 20% 100V
< CONNECTOR >							
CN1801	1-573-299-21	CONNECTOR, BOARD TO BOARD	10P	C606	1-162-318-11	CERAMIC	0.001MF 10% 500V
CN1803	*1-568-878-51	PIN, CONNECTOR	3P	C607	1-104-666-11	ELECT	220MF 20% 25V
< DIODE >							
D1802	8-719-110-17	DIODE RD10ESB2		C608	1-109-880-11	FILM	0.0015MF 3% 2KV
< IC >							
IC1801	8-759-701-59	IC MCT7809CT		C609	1-102-228-00	CERAMIC	470PF 10% 500V
IC1802	8-759-603-37	IC M5216P		C610	1-102-228-00	CERAMIC	470PF 10% 500V
< IC LINK >							
JW1802 1-533-605-91 LINK, IC 0.4A (ICP-F10)							
< RESISTOR >							
R1807	1-247-883-00	CARBON	150K 5% 1/4W	C611	1-102-228-00	CERAMIC	2200MF 20% 16V
R1809	1-249-429-11	CARBON	10K 5% 1/4W	C612	1-111-160-11	ELECT	22MF 20% 100V
R1810	1-249-429-11	CARBON	10K 5% 1/4W	C613	1-124-347-00	ELECT	100MF 20% 160V
R1811	1-249-429-11	CARBON	10K 5% 1/4W	C614	1-128-526-11	ELECT	100MF 20% 25V
R1812	1-249-429-11	CARBON	10K 5% 1/4W	C615	1-111-067-11	ELECT	0.001F 20% 25V

*A-1642-165-A D BOARD, COMPLETE							

4-201-023-01	SPACER, INSULATING			C616	1-111-067-11	ELECT	0.001F 20% 25V
4-202-373-01	SPRING, IC			C617	1-128-339-11	ELECT	2200MF 20% 16V
< CAPACITOR >							
C502	1-102-824-00	CERAMIC	470PF 5% 50V	C618	1-136-165-00	FILM	0.1MF 5% 50V
C503	1-136-165-00	FILM	0.1MF 5% 50V	C619	1-104-797-11	ELECT	470PF 20% 500V
C504	1-102-824-00	CERAMIC	470PF 5% 50V	C620	1-104-666-11	ELECT	470PF 20% 50V
C506	1-126-941-11	ELECT	470MF 20% 25V	C621	1-136-165-00	FILM	0.1MF 5% 50V
C507	1-109-953-11	ELECT	2.2MF 20% 50V	C622	1-104-797-11	ELECT	0.47MF 20% 100V

C623 1-104-666-11 ELECT 220MF 20% 25V							
C624 1-136-165-00 FILM 0.1MF 5% 50V							
C625 1-126-967-11 ELECT 47MF 20% 50V							
C626 1-104-666-11 ELECT 220MF 20% 25V							
C628 1-126-964-11 ELECT 10MF 20% 50V							
C629 1-111-097-11 ELECT 0.0022F 20% 35V							
C630 1-111-097-11 ELECT 0.0022F 20% 35V							
C631 1-126-965-11 ELECT 22MF 20% 50V							
C632 1-104-666-11 ELECT 220MF 20% 25V							
C633 1-107-564-11 FILM 0.22MF 20% 300V							
C634 1-107-564-11 FILM 0.22MF 20% 300V							
C635 1-107-564-11 FILM 0.22MF 20% 300V							
C636 1-113-890-51 ELECT 0.0022MF 20% 250V							
C640 1-106-220-00 MYLAR 0.1MF 10% 100V							
C647 1-162-116-00 CERAMIC 680PF 10% 2KV							
C651 1-102-228-00 CERAMIC 470PF 10% 500V							
C800 1-137-368-11 FILM 0.0047MF 5% 50V							
C801 1-137-372-11 FILM 0.022MF 5% 50V							
C802 1-136-153-00 FILM 0.01MF 5% 50V							
C804 1-136-165-00 FILM 0.1MF 5% 50V							
C805 1-136-207-11 FILM 0.047MF 10% 250V							
C806 1-104-999-11 MYLAR 0.1MF 10% 200V							
C807 1-136-109-00 FILM 0.68MF 5% 200V							
C808 1-137-205-11 FILM 0.1MF 5% 400V							
C810 1-107-683-11 ELECT 2.2MF 0 250V							
C811 1-102-212-00 CERAMIC 820PF 10% 500V							

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK	
C812	1-136-125-00	FILM	0.68MF	5%	400V	CN1420	*1-568-878-51 PIN, CONNECTOR 3P	
C813	1-129-722-00	FILM	0.047MF	10%	630V		< DIODE >	
C814	1-136-565-11	FILM	0.015MF	3%	1.4KV	D500	8-719-109-85 DIODE RD5.1ES-B2	
C815	1-136-562-11	MYLAR	0.0082MF	10%	400V	D502	8-719-979-85 DIODE EGP20G	
C816	1-161-754-00	CERAMIC	0.001MF	10%	2KV	D503	8-719-979-85 DIODE EGP20G	
C817	1-161-754-00	CERAMIC	0.001MF	10%	2KV	D504	8-719-991-33 DIODE 1SS133T-77	
C818	1-162-134-11	CERAMIC	470PF	10%	2KV	D505	8-719-982-03 DIODE MTZJ-3.6A	
C819	1-136-208-11	FILM	0.068MF	10%	250V	D506	8-719-991-33 DIODE 1SS133T-77	
C820	1-102-114-00	CERAMIC	470PF	10%	50V	D507	8-719-109-85 DIODE RD5.1ES-B2	
C821	1-162-114-00	CERAMIC	0.0047MF		2KV	D600	8-719-510-53 DIODE D4SB60L	
C822	1-107-662-11	ELECT	22MF	20%	250V	D601	8-719-046-77 DIODE EM1-V1	
C824	1-123-024-21	ELECT	33MF		160V	D603	8-719-109-97 DIODE RD6.8ES-B2	
C829	1-124-902-00	ELECT	0.47MF	20%	50V	D604	8-719-046-75 DIODE EU-1-V1	
C830	1-124-902-00	ELECT	0.47MF	20%	50V	D605	8-719-302-43 DIODE EL1Z	
C832	1-124-903-11	ELECT	1MF	20%	50V	D606	8-719-302-43 DIODE EL1Z	
C834	1-128-551-11	ELECT	22MF	20%	25V	D607	8-719-046-78 DIODE EG-1Z-V1	
C835	1-162-318-11	CERAMIC	0.001MF	10%	500V	D608	8-719-312-94 DIODE EU2-V1	
C836	1-162-117-00	CERAMIC	100PF	10%	500V	D609	8-719-301-64 DIODE RU4DS	
C838	1-102-228-00	CERAMIC	470PF	10%	500V	D610	8-719-046-74 DIODE AU-01Z-V1	
C839	1-136-189-00	FILM	0.1MF	10%	250V	D611	8-719-045-48 DIODE FML-G12S	
C845	1-102-110-00	CERAMIC	220PF	10%	50V	D612	8-719-046-76 DIODE RU-3YX-V1	
C901	1-101-810-00	CERAMIC	100PF	5%	500V	D613	8-719-045-48 DIODE FML-G12S	
C902	1-137-372-11	FILM	0.022MF	5%	50V	D614	8-719-045-48 DIODE FML-G12S	
C903	1-137-372-11	FILM	0.022MF	5%	50V	D615	8-719-046-75 DIODE EU-1-V1	
C904	1-104-665-11	ELECT	100MF	20%	25V	D616	8-719-110-03 DIODE RD7.5ESB2	
C905	1-126-964-11	ELECT	10MF	20%	50V	D617	8-719-991-33 DIODE 1SS133T-77	
C906	1-126-964-11	ELECT	10MF	20%	50V	D618	8-719-991-33 DIODE 1SS133T-77	
C907	1-126-964-11	ELECT	10MF	20%	50V	D619	8-719-991-33 DIODE 1SS133T-77	
C908	1-126-964-11	ELECT	10MF	20%	50V	D620	8-719-991-33 DIODE 1SS133T-77	
C911	1-126-964-11	ELECT	10MF	20%	50V	D622	8-719-923-60 DIODE MTZJ-T-77-9.1A	
C913	1-101-810-00	CERAMIC	100PF	5%	500V	D625	8-719-991-33 DIODE 1SS133T-77	
C1200	1-136-165-00	FILM	0.1MF	5%	50V	D626	8-719-046-74 DIODE AU-01Z-V1	
C1201	1-136-173-00	FILM	0.47MF	5%	50V	D631	8-719-109-93 DIODE RD6.2ES-B2	
C1202	1-136-173-00	FILM	0.47MF	5%	50V	D800	8-719-991-33 DIODE 1SS133T-77	
C1203	1-136-169-00	FILM	0.22MF	5%	50V	D801	8-719-991-33 DIODE 1SS133T-77	
C1204	1-136-169-00	FILM	0.22MF	5%	50V	D802	8-719-991-33 DIODE 1SS133T-77	
C1205	1-101-005-00	CERAMIC	0.022MF		50V	D803	8-719-908-03 DIODE GP08D	
C1206	1-101-005-00	CERAMIC	0.022MF		50V	D807	8-719-302-43 DIODE EL1Z	
C1207	1-126-933-11	ELECT	100MF	20%	16V	D808	8-719-908-03 DIODE GP08D	
C1208	1-126-963-11	ELECT	4.7MF	20%	50V	D809	8-719-018-82 DIODE RGP02-20EL-6394	
C1209	1-126-963-11	ELECT	4.7MF	20%	50V	D810	8-719-302-43 DIODE EL1Z	
C1214	1-126-933-11	ELECT	100MF	20%	16V	D812	8-719-038-49 DIODE FMS-3FU-LF027-1	
C1215	1-136-173-00	FILM	0.47MF	5%	50V	D815	8-719-908-03 DIODE GP08D	
C1216	1-137-366-11	FILM	0.0022MF	5%	50V	D817	8-719-109-89 DIODE RD5.6ESB2	
C1217	1-137-366-11	FILM	0.0022MF	5%	50V	D901	8-719-030-11 DIODE SLA-570KT3F	
C1218	1-126-934-11	ELECT	220MF	20%	16V	D902	*4-203-258-01 HOLDER, LED 8-719-923-60 DIODE MTZJ-T-77-9.1A	
< CONNECTOR >								
CN600 A	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P				D903	8-719-923-60 DIODE MTZJ-T-77-9.1A	
CN601 A	1-508-765-11	PIN, CONNECTOR (5MM PITCH) 3P				D904	8-719-923-60 DIODE MTZJ-T-77-9.1A	
CN603 A	*1-580-844-11	PIN, CONNECTOR (POWER)				D905	8-719-923-60 DIODE MTZJ-T-77-9.1A	
CN800	*1-580-798-11	CONNECTOR PIN (DV) 6P				D906	8-719-923-60 DIODE MTZJ-T-77-9.1A	
CN801	*1-573-296-21	CONNECTOR, BOARD TO BOARD 10P				D1201	8-719-109-72 DIODE RD3.9ES-B2	
< FUSE >								
F601	1-576-132-21	FUSE (H.B.C.) 5.0A/250V						
	1-533-230-12	HOLDER, FUSE : F601						
< FERRITE BEAD >								
FN1401	*1-568-880-51	PIN, CONNECTOR 5P				FB600	1-410-397-21 FERRITE BEAD INDUCTOR 1.1UH	
FN1408	*1-568-879-11	PIN, CONNECTOR 4P						

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
FB601	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		Q604	8-729-024-35	TRANSISTOR 2SC2808STP-R	
FB602	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE	
FB604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q606	8-729-900-65	TRANSISTOR DTA144ES	
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q607	8-729-119-78	TRANSISTOR 2SC2785-HFE	
FB606	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		Q800	8-729-119-78	TRANSISTOR 2SC2785-HFE	
FB607	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH		Q801	8-729-017-06	TRANSISTOR 2SC4793	
FB608	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q802	8-729-016-32	TRANSISTOR 2SC4927-01	
FB800	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH		Q803	8-729-119-80	TRANSISTOR 2SC2688-LK	
			< IC >	Q805	8-729-900-89	TRANSISTOR DTC144ES	
IC500	8-759-192-71	IC STV9379		Q900	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC600	8-749-010-84	IC STR-S6708		Q1200	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC601	8-749-924-92	IC TLP721(D4)		Q1201	8-729-900-74	TRANSISTOR DTC143TS	
IC602	8-749-920-61	IC SE-135N		Q1202	8-729-900-80	TRANSISTOR DTC114ES	
IC603	8-759-144-82	IC JPC2405HF		Q1203	8-729-900-74	TRANSISTOR DTC143TS	
IC604	8-759-366-13	IC L4941BV		Q1204	8-729-900-74	TRANSISTOR DTC143TS	
IC606	8-759-267-25	IC LM2940T-9.0					< RESISTOR >
IC800	8-759-103-93	IC JPC393P		R500	1-215-457-00	METAL	33K 1% 1/4W
IC900	8-747-905-11	RAY CATCHER ELEMENT SBX1790-51		R502	1-249-421-11	CARBON	2.2K 5% 1/4W
IC1200	8-759-250-68	IC TDA7264		R503	1-249-429-11	CARBON	10K 5% 1/4W
IC1201	8-759-502-21	IC TDA2822M		R504	1-215-455-00	METAL	27K 1% 1/4W
				R505	1-249-382-11	CARBON	1.2 5% 1/4W F
			< JACK >	R506	1-215-439-00	METAL	5.6K 1% 1/4W
J900	1-764-606-11	JACK		R507	1-215-888-00	METAL OXIDE	220 5% 2W F
			< COIL >	R508	1-216-371-00	METAL OXIDE	1.5 5% 2W F
L502	1-412-519-11	INDUCTOR	3.3UH	R509	1-249-443-11	CARBON	0.47 5% 1/4W F
L503	1-412-519-11	INDUCTOR	3.3UH	R510	1-249-443-11	CARBON	0.47 5% 1/4W F
L609	1-412-533-21	INDUCTOR	47UH	R520	1-215-457-00	METAL	33K 1% 1/4W
L611	1-412-527-11	INDUCTOR	15UH	R521	1-215-455-00	METAL	27K 1% 1/4W
L612	1-412-522-41	INDUCTOR	5.6UH	R522	1-247-863-91	CARBON	22K 5% 1/4W
L613	1-412-522-41	INDUCTOR	5.6UH	R523	1-247-863-91	CARBON	22K 5% 1/4W
L615	1-412-529-11	INDUCTOR	22UH	R524	1-249-425-11	CARBON	4.7K 5% 1/4W
L616	1-412-533-21	INDUCTOR	47UH	R525	1-249-425-11	CARBON	4.7K 5% 1/4W
L801	1-459-111-00	COIL, DRAM CORE (CDI)		R526	1-249-421-11	CARBON	2.2K 5% 1/4W
L802	1-459-104-00	COIL, WITH CORE		R527	1-215-437-00	METAL	4.7K 1% 1/4W
L803	1-420-872-00	COIL, AIR CORE		R600	1-216-490-11	METAL OXIDE	39K 5% 3W F
L804	1-406-903-11	COIL, HORIZONTAL LINEARITY		R601	1-249-417-11	CARBON	1K 5% 1/4W
L805	1-406-675-11	COIL, CHOKE 4.7MMH		R602	1-215-473-00	METAL	150K 1% 1/4W
L809	1-412-533-21	INDUCTOR	47UH	R603	1-215-898-11	METAL OXIDE	10K 5% 2W F
L811	1-406-979-11	COIL, CHOKE 220UH		R604	1-249-420-11	CARBON	1.8K 5% 1/4W
L813	1-412-552-11	INDUCTOR	2.2MMH	R605	1-216-362-11	METAL OXIDE	0.27 5% 2W F
L901	1-408-603-31	INDUCTOR	10UH	R607	1-216-421-11	METAL OXIDE	12 5% 1W F
L902	1-408-603-31	INDUCTOR	10UH	R608	1-216-365-00	METAL OXIDE	0.47 5% 2W F
L903	1-408-409-00	INDUCTOR	10UH	R610	1-215-421-00	METAL	1K 1% 1/4W
L904	1-408-409-00	INDUCTOR	10UH	R611	1-216-354-11	METAL OXIDE	2.7 5% 1W F
				R612	1-249-428-11	CARBON	8.2K 5% 1/4W
			< IC LINK >	R613	1-249-417-11	CARBON	1K 5% 1/4W
P8600	1-532-686-91	LINK, IC 2.7A (TCP-F75)		R614	1-215-877-11	METAL OXIDE	22K 5% 1W F
P8601	1-532-686-91	LINK, IC 2.7A (TCP-F75)		R615	1-249-435-11	CARBON	33K 5% 1/4W
P8602	1-532-686-91	LINK, IC 2.7A (TCP-F75)		R616	1-215-471-00	METAL	120K 1% 1/4W
P8603	1-532-686-91	LINK, IC 2.7A (TCP-F75)		R617	1-215-901-00	METAL OXIDE	33K 5% 2W F
				R618	1-247-863-91	CARBON	22K 5% 1/4W
			< TRANSISTOR >	R619	1-216-425-11	METAL OXIDE	56 5% 1W F
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE		R620	1-260-131-11	CARBON	470K 5% 1/2W
Q502	8-729-119-76	TRANSISTOR 2SA1175-HFE		R621	1-216-425-11	METAL OXIDE	56 5% 1W F
Q503	8-729-900-89	TRANSISTOR DTC144ES		R622	1-249-437-11	CARBON	47K 5% 1/4W
Q601	8-729-025-04	TRANSISTOR 2SC3852A		R623	1-249-429-11	CARBON	10K 5% 1/4W
Q602	8-729-320-28	TRANSISTOR 2SA1667		R624	1-249-393-11	CARBON	10 5% 1/4W F
Q603	8-729-802-78	TRANSISTOR 2SC3502-E		R625	1-249-434-11	CARBON	27K 5% 1/4W
				R626	1-249-430-11	CARBON	12K 5% 1/4W

Les composants identifies par une trame et une marque sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and marked A are critical for safety.
Replace only with the part number specified.

D

VM



Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifique.

The components identified by shading and marked  are critical for safety.
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK								
C1703	1-126-933-11	ELECT	100MF	20%	16V	R1725	1-216-451-11	METAL OXIDE	120	5%	2W	F			
C1704	1-107-357-11	FILM	0.47MF	5%	100V	R1728	1-249-413-11	CARBON	470	5%	1/4W				
C1705	1-107-638-11	ELECT	33MF	20%	160V	R1729	1-249-413-11	CARBON	470	5%	1/4W				
C1706	1-104-999-11	FILM	0.1MF	5%	200V	R1730	1-249-422-11	CARBON	2.7K	5%	1/4W				
C1707	1-137-397-11	FILM	0.047MF	5%	100V	R1731	1-249-411-11	CARBON	330	5%	1/4W				
C1708	1-137-364-11	FILM	0.001MF	5%	50V	*****									
C1709	1-137-364-11	FILM	0.001MF	5%	50V	*****									
C1710	1-102-074-00	CERAMIC	0.001MF	10%	50V	*****									
C1720	1-107-667-11	ELECT	2.2MF	20%	160V	MISCELLANEOUS									
C1721	1-137-397-11	FILM	0.047MF	5%	100V	*****									
C1722	1-126-934-11	ELECT	220MF	20%	16V	*****									
C1723	1-161-830-00	CERAMIC	0.0047MF		500V	*****									
C1725	1-128-551-11	ELECT	22MF	20%	25V	*****									
C1726	1-126-934-11	ELECT	220MF	20%	16V	*****									
< CONNECTOR >								*****							
CN1015	*1-568-880-51	PIN, CONNECTOR 5P				*****									
CN1718	1-774-418-11	CONNECTOR, BOARD TO BOARD 8P				*****									
< DIODE >								*****							
D1701	8-719-991-33	DIODE 1SS133T-77				*****									
D1702	8-719-110-88	DIODE RD39ES-B2				*****									
D1703	8-719-110-88	DIODE RD39ES-B2				*****									
< COIL >								*****							
L1701	1-408-409-00	INDUCTOR	10UH			*****									
L1702	1-408-403-00	INDUCTOR	3.3UH			*****									
L1703	1-408-409-00	INDUCTOR	10UH			*****									
L1704	1-408-418-00	INDUCTOR	56UH			*****									
L1705	1-408-418-00	INDUCTOR	56UH			*****									
< TRANSISTOR >								*****							
Q1701	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1702	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1703	8-729-017-05	TRANSISTOR 2SA1837				*****									
Q1704	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1706	8-729-017-06	TRANSISTOR 2SC4793				*****									
Q1708	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1709	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
< RESISTOR >								*****							
R1701	1-249-417-11	CARBON	1K	5%	1/4W	*****									
R1702	1-249-417-11	CARBON	1K	5%	1/4W	*****									
R1703	1-249-421-11	CARBON	2.2K	5%	1/4W	*****									
R1704	1-249-415-11	CARBON	680	5%	1/4W	*****									
R1705	1-247-815-91	CARBON	220	5%	1/4W	*****									
R1706	1-247-815-91	CARBON	220	5%	1/4W	*****									
R1708	1-249-412-11	CARBON	390	5%	1/4W	*****									
R1712	1-260-311-11	CARBON	39	5%	1/2W	*****									
R1713	1-249-384-11	CARBON	1.8	5%	1/4W F	*****									
R1714	1-249-414-11	CARBON	560	5%	1/4W F	*****									
R1715	1-249-432-11	CARBON	18K	5%	1/4W	*****									
R1716	1-249-417-11	CARBON	1K	5%	1/4W F	*****									
R1717	1-216-476-11	METAL OXIDE	180	5%	3W F	*****									
R1718	1-249-432-11	CARBON	18K	5%	1/4W	*****									
R1719	1-249-384-11	CARBON	1.8	5%	1/4W F	*****									
R1720	1-249-400-11	CARBON	39	5%	1/4W F	*****									
R1721	1-249-414-11	CARBON	560	5%	1/4W	*****									
R1722	1-249-401-11	CARBON	47	5%	1/4W	*****									
R1724	1-249-400-11	CARBON	39	5%	1/4W	*****									
< CONNECTOR >								*****							
CN1015	*1-568-880-51	PIN, CONNECTOR 5P				*****									
CN1718	1-774-418-11	CONNECTOR, BOARD TO BOARD 8P				*****									
< DIODE >								*****							
D1701	8-719-991-33	DIODE 1SS133T-77				*****									
D1702	8-719-110-88	DIODE RD39ES-B2				*****									
D1703	8-719-110-88	DIODE RD39ES-B2				*****									
< COIL >								*****							
L1701	1-408-409-00	INDUCTOR	10UH			*****									
L1702	1-408-403-00	INDUCTOR	3.3UH			*****									
L1703	1-408-409-00	INDUCTOR	10UH			*****									
L1704	1-408-418-00	INDUCTOR	56UH			*****									
L1705	1-408-418-00	INDUCTOR	56UH			*****									
< TRANSISTOR >								*****							
Q1701	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1702	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1703	8-729-017-05	TRANSISTOR 2SA1837				*****									
Q1704	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1706	8-729-017-06	TRANSISTOR 2SC4793				*****									
Q1708	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
Q1709	8-729-119-78	TRANSISTOR 2SC2785-HFE				*****									
< RESISTOR >								*****							
R1701	1-249-417-11	CARBON	1K	5%	1/4W	*****									
R1702	1-249-417-11	CARBON	1K	5%	1/4W	*****									
R1703	1-249-421-11	CARBON	2.2K	5%	1/4W	*****									
R1704	1-249-415-11	CARBON	680	5%	1/4W	*****									
R1705	1-247-815-91	CARBON	220	5%	1/4W	*****									
R1706	1-247-815-91	CARBON	220	5%	1/4W	*****									
R1708	1-249-412-11	CARBON	390	5%	1/4W	*****									
R1712	1-260-311-11	CARBON	39	5%	1/2W	*****									
R1713	1-249-384-11	CARBON	1.8	5%	1/4W F	*****									
R1714	1-249-414-11	CARBON	560	5%	1/4W F	*****									
R1715	1-249-432-11	CARBON	18K	5%	1/4W	*****									
R1716	1-249-417-11	CARBON	1K	5%	1/4W F	*****									
R1717	1-216-476-11	METAL OXIDE	180	5%	3W F	*****									
R1718	1-249-432-11	CARBON	18K	5%	1/4W	*****									
R1719	1-249-384-11	CARBON	1.8	5%	1/4W F	*****									
R1720	1-249-400-11	CARBON	39	5%	1/4W F	*****									
R1721	1-249-414-11	CARBON	560	5%	1/4W	*****									
R1722	1-249-401-11	CARBON	47	5%	1/4W	*****									
R1724	1-249-400-11	CARBON	39	5%	1/4W	*****									
< CONNECTOR >								*****							
CN1015	*1-568-880-51	PIN, CONNECTOR 5P				*****									
CN1718	1-774-418-11	CONNECTOR, BOARD TO BOARD 8P				*****									
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D1701	8-719-991-33	DIODE 1SS133T-77				*****									
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